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Vol. XIII., No. 9.]

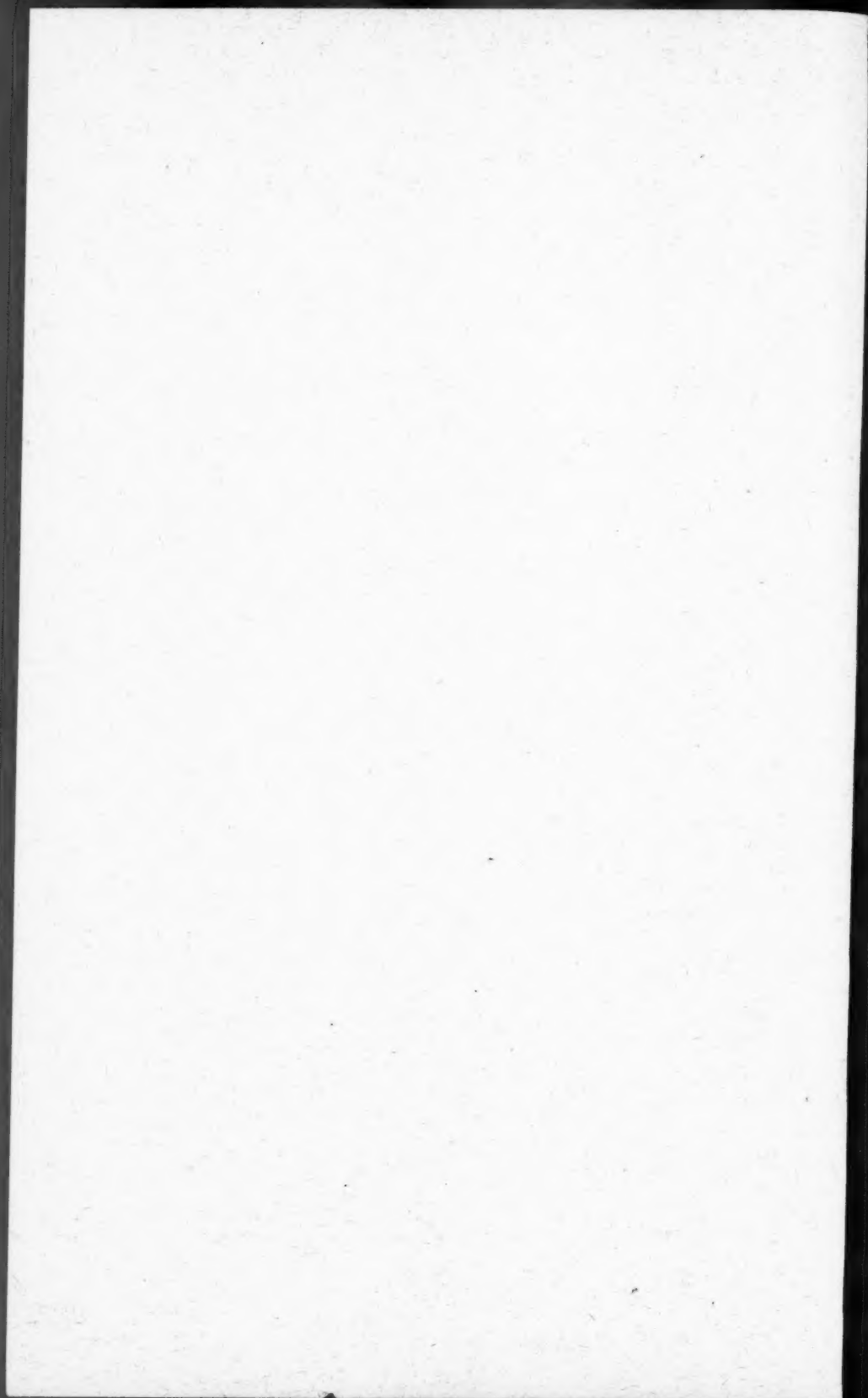
[July, 1920

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

SECTION OF THE HISTORY OF MEDICINE.

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Section of the History of Medicine.

President—Sir D'ARCY POWER, K.B.E., F.R.C.S.

The History of Medical Education in the Universities of Oxford and Cambridge, 1500-1850.¹

By ARNOLD CHAPLIN, M.D.Cantab., F.R.C.P.

INTRODUCTION.

IN recent years a vast amount of valuable research work dealing with the form and range of education in the sister Universities has been accomplished. Scarcely any part of the University curriculum has escaped minute inquiry, and by the publication of grace books, ancient statutes, and other early records, the path of the student has been rendered comparatively easy. The history of medical education, however, has not received, perhaps, adequate attention, and for that reason the attempt has been made to give a sketch of its progress from the year 1500 to 1850. This period has been selected for two reasons. First, scarcely any records exist concerning the study of medicine at Oxford and Cambridge before 1500, and the nature and scope of the education can only be inferred from what is known of the medical curriculum at the great Universities on the Continent, such as Bologna, Montpellier and Paris, from which the style and extent in our own Universities was borrowed. Secondly, in 1850 the Commission appointed to inquire into the method of education at Oxford and Cambridge began its labours, and on their completion, medical education at the Universities underwent a profound change.

In early times, before the foundation of the Universities, the art of medicine was largely the province of the Church, but in 1131, the

¹ At a meeting of the Section, held April 21, 1920.

Council of Rheims prohibited the regular clergy from devoting their attention to physical compositions, and after this edict the regular clergy confined themselves to prescribing medicines. In 1139, the Council of the Lateran prohibited physicians from administering to the wants of the body before the spiritual needs of the patient had received attention. But when the Universities were established, knowledge of medicine was principally obtained at those centres, and although no law can be quoted in support of the contention, it may be inferred that a degree in medicine from the Universities was equivalent to a licence to practice the art. In 1422 (9 Hen. V), the first enactment concerning the practice of medicine appears upon the statute book. It is doubtful, however, if this enactment had the authority of an Act of Parliament. Under this statute it was enacted that "No one shall use the myserie of fysyk, unless he hath studied it in some University, and is at least a bachelor in the science. The Sherrif shall inquire whether anyone practice in his country contrary to this regulation; and if any-one so practice he shall forfeit £40 and be imprisoned. And any woman who shall practice physick shall incur the same penalty." The authority of the Universities was, therefore, recognized as licensing those wishing to practise medicine. The Church, however, still continued to exercise some authority, for in the statute of the third year of the reign of King Henry VIII (C. 11, 1511), it is stated that "except for those graduating in medicine at Oxford and Cambridge, all desiring to practice medicine or surgery in London and seven miles around must be approved, after examination, by the Bishop of London, or the Dean of St. Paul's with, in the case of physicians, the assistance of four doctors in physick, and, in the case of surgeons, of other expert persons of that faculty." In the provinces the same authority was exercised by the bishop or his vicar-general. Under this statute, therefore, the Universities and the Church were the only bodies capable of granting licences to practise. Seven years later the College of Physicians was founded, and the power to license physicians finally resided in that body and the Universities.

During the period under review education at Oxford and Cambridge was governed by two sets of statutes. At Oxford the "old" or "original" statutes remained in force until 1636, when they were replaced by the "Caroline" or "Laudean" Code, while at Cambridge the "old statutes" were abrogated by the "Elizabethan" Code in 1570. After the introduction of the "Caroline" and "Elizabethan" Codes the education at Oxford and Cambridge was governed by them with but

slight modification until the end of the first quarter of the nineteenth century. These statutes, both old and new, defined with fair precision the scope of medical teaching, and, had strict obedience been paid to them, they would have secured to the medical student a competent theoretical knowledge of medicine in accordance with the standard belonging to the time in which they were promulgated. But even as early as the fifteenth century the Universities began to fall far behind continental centres in the efficiency of their medical teaching, and students seriously engaged in the study of medicine failing to find adequate instruction at Oxford and Cambridge, proceeded to France and Italy, where they could pursue their studies with a better prospect of success. The medical schools at Oxford and Cambridge, therefore, became little more than centres at which degrees could be obtained, and the practice grew up of granting dispensations by which students were absolved from carrying out the aims and intentions of the statutes. On account of this practice of granting dispensations, often for very slender reasons, the statutes, however strictly they might have been drawn, bear little or no relation to the manner in which medical education was actually carried out.

But in one important particular the "old" statutes of both Universities exacted a rigid observance. They compelled all who desired to study medicine to proceed in arts before taking a medical degree. Even dispensations in this respect were few and far between, and whatever opinion may be held concerning the sufficiency of medical training in the Universities, the conditions requiring a degree in arts at least aimed at a broad foundation of general culture. At Oxford this principle was continued in the "Caroline" code down to the year 1833, but at Cambridge the "Elizabethan" code permitted a student to proceed in medicine without any degree in arts, and consequently from 1570 onwards a very large number of men graduated in medicine at Cambridge without any training in arts.

The "old" statutes were formed when the Universities were dominated by scholasticism, and it would be strange indeed if these statutes dealing with the teaching of medicine were not conceived in the same spirit. In the early years of the Universities medical scholasticism was as much a reality as scholasticism in theology or philosophy, only instead of Thomas Aquinas and Peter Lombard, teachers of medicine staked their all upon Hippocrates and Galen, and beyond commenting upon these two authors nothing was either expected or permitted. Scholasticism exercised the same contracting influence

on medical thought as it did on all other mental processes. It prohibited medical and scientific thinkers from testing and criticizing the views sanctioned by so-called authority; it ordered a blind acquiescence. This spirit pervaded the study of medicine in the Universities long after other sciences had gained a measure of freedom, and it was hardly before the beginning of the seventeenth century that the first glimmer of the light of independent thought began to influence the minds of physicians. With the advent of a broader and more sympathetic culture, medical thought began to develop, and this change is apparent even in the "Caroline" and "Elizabethan" codes.

"It is almost impossible to indicate with any precision the method of medical teaching in vogue at the Universities in very early times. But it is probable that, as in the faculty of arts, all those who had attained to the position of Regent Masters in the medical faculty took their share in the duty of teaching. In those early times a degree in arts was held in higher estimation than one in medicine, law, or divinity. Eventually, however, divinity, law, and physic supplanted arts because of the riches and honour bestowed upon them. This desertion of arts took place soon after the collection of the "Sentences" (1145-50), when, according to Wood, "students forsook the studies in arts and rushed to those of divinity, law, and physic for the sake of ambitious lucre."

OXFORD.

(I) *Medical Education under the "Statuta Antiqua."*

It has already been stated that Oxford, throughout nearly the whole period under review, required its medical students to obtain a degree in arts before proceeding in medicine. In order, therefore, to form an estimate of the extent of general culture implied by the possession of a degree in arts, some account must be given of the course prescribed by the statutes for students in those subjects.

For the degree of Bachelor of Arts the course occupied three years from the date of admission, and the teaching was given in the form of lectures and disputations. The lectures were designed for the purpose of imparting knowledge, and the disputations for the purpose of teaching the form in which the knowledge gained at the lectures should be displayed. During the first year, the student studied at lectures, grammar, rhetoric and logic, or the subjects comprising the trivium, and after that metaphysics. At the same time he attended the "Disputationes in Parvis," or in other words frequented the schools

where the exercises for the degree of B.A. took place. Having occupied his time in this way for the prescribed period, the student was then ready to begin his exercises for the B.A. degree. The first set of exercises took place in the ninth term and took the form of a disputation in grammatical and logical subjects, or he was expected, as it was termed, "*Respondere in Parvisis*." There were two classes of disputants: (a) "*Scolares pro Forma*," and (b) "*Scolares pro Terminis*." The *scolares* who had successfully disputed "*pro forma*," were termed "*Sophistae Generales*," and they were required to continue the disputations once a term until they actually took the B.A. degree. While engaged in this manner they were styled "*Scolares pro Terminis*." The second set of disputations took place in Lent, and the student was expected to respond twice to the determining Bachelors, when he was said "*respondere sub Baccalaureo in quadragesima*." After these exercises had been duly performed the student was then eligible for the degree of B.A. To obtain the degree it was necessary to comply with many cumbersome formalities: (1) The student was required to make supplication for his degree; (2) he had to perform the "*circuitus*," that is, visit the Vice-Chancellor and the Proctors; (3) he had to obtain the "*Depositio*," in which nine Bachelors were required to report to the Proctors that the student was "*aptus et idoneus moribus et scientia*"; (4) "*Subscription*" to the articles was required; and (5) he was presented to the Vice-Chancellor by the Regent Masters, when the former pronounced the words: "*Ego admitto te ad lectionem cujuslibet libri Logice Aristotelis*." Lastly, the student was required to accomplish his "*Determinatio*," which comprised a rehearsal of exercises before his Regent Master on the *Festum Ovorum* and *Dies Cinerum*, and the performance of the exercises themselves in grammar, rhetoric and Aristotle before the Junior Proctor. With these formalities completed the student then became a Bachelor of Arts.

Much the same plan was followed in the course for the M.A. degree, but the range of subjects was more extended. Three years' study in the form of lectures and disputations were required. The lectures dealt with the subjects of moral and natural philosophy, and the candidate had to attend disputations and to dispute "*pro forma*" once a year "*in Augustinensibus*" and "*in Quodlibeticis*." Unlike the candidate for the B.A. degree, he had also to read "*sex cursoriae lectiones*" in two books on logic and in one book of natural philosophy. In the Caroline code, however, the "*cursorie lectures*" were changed to "*sex solennes*

lectiones" in the same subjects. After this the candidate went through the forms of "Supplicatio," "Circuitus," "Depositio," "Presentatio," "Registratio," and "Inception." Inception was divided into three parts, viz., Disputation in Vesperis, where three questions in philosophy maintained by the candidate were responded to by the Proctors; Disputation in Comitia, and lastly Creation by the Vice-Chancellor, who placed the hood and cap on the M.A., and gave him a book and a kiss.

The above then is a brief account of the course of study prescribed by the "old" statutes for degrees in Arts. Had that course been carried out in the strict spirit and letter of the statutes no serious criticism could have been advanced against it. But there is ample evidence that compliance with the statutes was either neglected altogether, or performed in a very perfunctory manner. Dispensations were frequent, and were granted for almost any reason, so that a large number of students passed out in Arts with scarcely any title to be regarded as having been well grounded in the subjects taught. The lectures were badly attended, and the lecturers were often most irregular in carrying out their tasks. So also with the public exercises in the schools, they often degenerated into a farce, and the fatal dispensations could almost always be obtained to absolve the student from the performance of those parts which were distasteful to him. Whatever value, therefore, was attached by the world to a degree in Arts from the University, a slight examination of the facts will convince any inquirer that there were many loop-holes in the system rendering the degree of doubtful value.

After inception as a Master of Arts, the student was required to attach himself to one of the higher faculties of theology, law, or medicine, and often the statutes of his college compelled him to become a student in medicine. Oxford granted two licences and two degrees in the faculty of medicine: (1) The "Licentia ad practicandum in re medica per totam Angliam"; (2) the "Licentia ad practicandum in Chirurgia per Universam Angliam"; (3) the degree of Bachelor of Medicine; and (4) the degree of Doctor of Medicine. The licences to practise medicine and surgery were conferred quite apart from the M.B. and M.D. degrees, although supplication was made for them often at the same time. They were, apparently, issued on condition that a certain time had been spent in study, that lectures had been attended, and that the suitability of the candidate had been attested by the Regius Professor or Reader in Medicine. Both medical and surgica-

licences were of considerable value to the holder for they conferred the privilege of practising medicine or surgery throughout all England. The holders of these licences had often been in practice for a considerable number of years before they applied, and, beyond complying with the statutes, had no other connexion with the University.

For the degree of Bachelor of Medicine the following conditions required compliance: (1) The candidate should have taken the degree of M.A.; (2) he was required to spend three years in the study of medicine after becoming M.A.; (3) he had to attend lectures on Hippocrates and Galen; (4) he was required to dispute in the terminal disputations of his faculty in each term; (5) he was obliged to dispute "pro forma" in two "questiones," once as respondent and twice as opponent; (6) he was asked to produce a certificate from the Doctors of the Faculty, or from the Regius Professor. The formalities incident to taking the degree were the same as those for the B.A. degree, except that there was no "Determination." The candidate was then formally admitted "ad lectionem aphorismorum Hippocratis," and thus became a Bachelor of Medicine. As in all other cases, "dispensations" were frequent, and were granted for various reasons.

The M.D. degree could be taken four years after the M.A., but if, as sometimes happened, the candidate had not taken that degree in Arts, a longer period of study was required. These four years were spent in attending lectures given either by the Regius Professor, or the Reader in Medicine, and in giving lectures after due notice, on the "*Liber Tegni*," or the "*Liber Regimenti Acutorum*," the "*Liber Febrium*" of Isaac, the "*Antidotarium*" of Nicolaus, and the "*Liber Aphorismorum*." Disputations had also to be maintained in the schools. After having performed these duties the similar formalities to those for the M.A. degree were gone through. Finally came inception, which was divided into two parts—viz., the Vespereal Disputations, and the Disputation in Comitia. In each of these disputations three questions were discussed, and after that the creation took place when the candidate was admitted M.D. by the signs of the cap, the ring, the book, and the kiss.

After inception the Doctor of Medicine was expected to take his place as a Regent Master for a period of two years, during which time he was required to give lectures, and to preside over disputations in the schools. The complete course, therefore, occupied fourteen years of study of a kind, and the value of that study as a preparation for the work of a physician may now be investigated. Enough has been said

to show that it was possible to obtain the medical degrees without any great exertion, for both students and teachers too often regarded the lectures and disputations as irksome duties to be neglected entirely or to be performed in a perfunctory manner. Those who seriously intended to prosecute the study of medicine went to the Universities on the Continent, of which Padua and Bologna were the most popular, and where, doubtless, the opportunities for medical study were far greater than at Oxford and Cambridge. Padua was specially favoured by students from Northern Europe, probably, as Rashdall has observed, on account of its liberal institutions, and the stand it made against the Catholic reaction. The whole of the medical teaching at Oxford under the "old" statutes was theoretical and no evidence is found of any practical instruction. Even anatomy was not taught until the year 1624 when Richard Tomlins established his readership in that subject. Of course no advance could be expected so long as the teaching was confined to commenting upon ancient writers, and so long as it was regarded as impious to question any statement made by so-called authority. The aim was entirely scholastic, and many years were destined to elapse before medical teaching became emancipated from its benumbing influence.

(II) *The "Caroline" or "Laudean" Code of 1636.*

In 1636 the code of statutes, drawn up under the supervision of Archbishop Laud, came into operation. Although it cannot be said that it marked any great advance upon the old statutes, it was, nevertheless, much more precise, and it attempted to define with more care the intentions of the statutes. No great change was inaugurated by the "Caroline" code, and with some slight modifications, medical education remained in the same narrow groove. The chief alterations may be noted. Owing to the foundation of the Richard Tomlins Readership in Anatomy, that subject now formed a part of medical education, and the students were required to attend the lectures. The Regius Professor was expected to lecture twice every week on Hippocrates and Galen, and all medical students below the rank of M.D. were compelled to attend. The obligation to take the M.A. degree before proceeding to a medical degree was enforced, and the time required to be spent in study before obtaining the doctorate remained as in the old statutes—viz., fourteen years. The medical student was compelled to attend lectures regularly and to oppose

once and respond once in the medical schools before becoming a Bachelor of Medicine. For the inception the candidate was required to attend lectures, and to read six "solennes lectiones," in which he was to explain Galen, or he might explain cursorily in three lectures one book on the temperaments, one on the differences of fevers, the uses of parts, or on local affections. The vesperial disputations and the form of conferring the degree were not altered.

The conditions were slightly changed for the licence in medicine, for the candidate must have taken the M.B., and in addition to the approval of the Regius Professor, the Doctors of Medicine (instead of one) resident in the University must signify their approval of the candidate. These conditions complied with, the candidate was granted letters testimonial, giving him permission to practise throughout the whole realm of England for the rest of his life.

The conditions upon which the licence in surgery was granted also differed from those under the old statutes. They were as follows: (1) The candidate must have practised his art for seven years at least; (2) he must have performed two anatomies; (3) he must have been approved under the handwriting of the Regius Professor; (4) the grace was granted on condition that the candidate cured gratuitously three paupers with a view to charity, and on being requested by them to do so. The letters testimonial were granted subject to the following four conditions: (1) That the candidate performed the three cures mentioned above; (2) that he did not overstep the bounds of his own art to practise medicine; (3) that he did not ask too much salary, or delay the cure with a view to greater gain; (4) that should he offend in the above, the licence was to become void.

As time elapsed changes were made in the "Caroline" statutes, so that they might be more in accordance with recent advances. In 1767 a grace was passed by which all medical students were required to attend the lectures in anatomy, and before obtaining the licence evidence had to be produced that they had attended one entire dissection, and one lecture on the skeleton. A further modification was made in 1781, presumably on account of the paucity of medical students at that time, when it was enacted that the student, after taking the M.A. degree, was required to spend one year only in attendance on the Regius Professor, before taking the degree of M.B. This reduced the total period of study before taking the M.D. degree to eleven years instead of fourteen, and brought the curriculum down to the time required at Cambridge.

During the eighteenth century the medical school at Oxford had reached its lowest point, and its condition was deplorable. Lectures were undelivered, no attempt was made to enforce medical study, and degrees were granted without any real medical test. But a brighter epoch was about to dawn, and the improvement was due to the energy of three men, who rescued the medical school from extinction. Dr. John Kidd, the Regius Professor; Dr. James Adey Ogle, the Aldrichian Professor of Medicine; and Dr. Charles Giles Bridle Daubeny, the Professor of Botany, may be regarded as the men who regenerated medical education at Oxford, and to these three men she owes it that she is in a position to teach medicine and science with success at the present time.

Owing to the exertions of Kidd, and others associated with him, Oxford took a momentous step in 1833, when the University repealed all the statutes relating to medicine under the "Caroline" code, and in their place substituted new statutes more in keeping with modern methods. This great change was approved by convocation on December 2, 1833, and was ordered to come into force in Trinity term of the following year. The chief provisions of the new statutes were as follows: (1) The medical student was no longer obliged to take the M.A. degree before he became a Bachelor of Medicine, but in its place he was required to undergo a public examination among the candidates who were competitors for the earliest degree in arts or civil law. That is to say, in the place of the M.A. degree, a candidate for the M.B. degree must first pass the examination for the B.A. degree, and this necessitated four years of study. (2) After passing this examination the student in medicine was required to spend three full years in the study of medicine before he could present himself for the degree of M.B.; in other words, no one could be admitted to the M.B. degree until he had completed seven years of study from the time of matriculation. (3) At the end of three years' medical study the student was obliged to present himself for examination before he could supplicate for his grace. (4) This examination was conducted by three public examiners in the faculty of medicine—viz., the Regius Professor and two Doctors of Medicine of Oxford University. (5) The examination was to be conducted orally and in writing, and the Latin or English tongue was employed at the discretion of the examiners. (6) The subjects of the examination were the theory and practice of medicine, anatomy, physiology, pathology, materia medica, chemistry, and botany. Any two of the ancient writers, Hippocrates, Galen, Aretæus, and Celsus

were always to be made use of at every examination. (7) Before undergoing the examination the candidate was required to bring certificates showing that he had attended lectures and hospital practice. (8) For the degree of M.D. the candidate, after taking the M.B., was required to study medicine for three full years, and then to read a dissertation on any medical subject previously approved by the Regius Professor. (9) Those desirous of incorporation were compelled to undergo an examination, and to produce testimonials that they had made good all the exercises requisite for the degree.

Thus, after two hundred years the old statutes were swept away, gone were the cumbersome forms and ceremonies that fettered medical education, and for the first time the University of Oxford could say with truth that she was able to apply an efficient test to those who desired a degree in medicine.

(III) *The History of the Medical Professorships and Lectureships.*

The first lectures connected with medicine at Oxford were those delivered by Andrew Alazard, a doctor of Montpellier, who, according to Wood, had read lectures in medicine at Oxford in 1504, at St. Alban's Hall. Wood states that these lectures were attended by medical students in great numbers, and were well received.

The next lectures given in medicine were the *Shagglyng Lectures*. On the authority of Wood these lectures were "extraordinary" or temporary lectures, allowed either by public authority, common consent, or recommendation. No stated time was prescribed for their delivery, and, in all probability they owed their origin to private enterprise. Various subjects besides medicine were chosen, but the first medical lecture appears to have been given in 1514 by Thomas Linacre. Another lecture was given in 1535 by John Warner, the third in 1545 by Edward Cryspine, and the last in 1581 by Fabian Nephius. After this no further lectures appear to have been given, and presumably, the *Shagglyng Lectures* were allowed to lapse.

Cardinal Wolsey established a lecture in medicine in connexion with Cardinal College, and in 1522 Thomas Moscroffe, or Musgrave, gave the first and only lecture on this foundation, for the fall of Wolsey put an end to the project.

The Linacre Lectures in Physic mark the first attempt to establish definite and permanent lectures in medicine, and were in keeping with their great founder, who was always concerned to advance the study of

medicine. Linacre had desired to found those lectures during his life but his project did not mature. By his will dated October 18, 1524, Linacre, however, left lands in Kent and London for two substantial lectures in physyke to be founded in the University of Oxford, to begin and to be put in execution in as convenient a time after his decease as shall be thought fitting by his executors: to be read by two graduates of not less standing than M.A. to be appointed by the Master and Wardens of the Mystery of Mercers; and to be paid £11, and to be called the "More" lecturer; and the other to be paid £6 15s. 4d., and to be called the "Lesse" lecturer; and when the More lecture is void the Lesse lecturer to be appointed if fit. The More lecturer to read every day a double lecture of Galen as follows: Six books of Galen, "de sanitate tuendi" for his "ordinary," and for his "after" lecture three books of Galen, "de alimento," and for his "ordinary" fourteen books of Galen, "de methodo medendi," and for his "after" lecture, six books of Galen, "de locis affectis." These finished, the "Prognostica" Hippocratis with Galen's comments, and such questions as Galen called logical, but only such as be literal, so that in two and a half to three years they made an end of the said books. Nothing further was done owing to the disturbed condition of the Universities, until 1549, when Dr. Rainolds, Warden of Merton, moved in the matter, with the result that the lands were settled on the Warden and Scholars of Merton College, with certain conditions imposed, for the purpose of carrying out Linacre's intentions. The Linacre Lectures in Physic were, therefore, established, and the first lecturer was Dr. Robert Barnes, appointed in 1558. The design and intention of Linacre was to found a lectureship for the purpose of promoting the study of medicine at Oxford, but the history of the foundation is a sad commentary upon the slothful and neglectful methods of the University. It is not too much to say that the Linacre foundation never at any time exercised any influence upon medical education until after the Commission on Education at Oxford had completed its labours in 1856. The reasons for this are not far to seek. Linacre himself, by the terms he imposed, contributed, unwittingly no doubt, to the inefficient manner in which the trust was carried out. He stated that his lecturers must be at least of the standing of Masters of Arts; he did not stipulate that they must be Doctors of Medicine, and this was seized upon by the Warden and Fellows of Merton as a pretext for appointing to the lectureships Fellows of the College who had no real knowledge. In the case of the inferior lectureships this was often done, and latterly the superior

lecturer was not a medical man. In fact for many long years these lectures, which might have been so valuable to the University, were regarded as sinecures, and for long periods they were not delivered at all. From 1840 until the end of the labours of the University Commission no appointment appears to have been made, and presumably the revenues went to swell the college chest. It must be confessed also that the lectures designed to comment upon Hippocrates and Galen only could hardly contribute to the advancement of the art and science of medicine. Under the ordinances of the University Commissioners the emoluments attaching to the Linacre Lectureships were used in 1854 to found the Linacre Professorship of Physiology, and thus for probably the first time in the history of the trust, Linacre's intention of promoting the study of medicine was given effect. The whole of the above account of the Linacre Lectureships has been drawn from notes made for the writer by Miss Taylor, who has searched the records of Merton College for that purpose. Through her skill and industry it has been possible for the first time to obtain a complete list of those who held the lectureships.

The Regius Professorship of Physic.—According to Wood, the foundation of the Regius Professorship arose out of Cardinal Wolsey's scheme for the improvement of education at Oxford. However that may be, it is certain that the Visitors of King Henry VIII, in 1535, appointed Readers in various subjects, including Medicine, and they required the Reader in Medicine to read either Hippocrates or Galen at eight o'clock on Tuesdays and Thursdays. The Visitors further ordered that no one should practise physic unless he had been examined by the Reader in that subject. Wood states that many students seeing the ruin of the clergy betook themselves to the study of physic. In 1546 the King founded the Regius Professorships and the Chair of Physic was filled by the appointment of John Warner who had occupied the position of Reader since 1535. In 1617 King James I augmented the revenues of the Chair in Physic by the annexation of the Mastership of Ewelme Hospital, and in 1624 the endowment was further augmented by the addition of the Tomlins Prælectorship of Anatomy. From 1803 to 1858 the Aldrichian Professorship of Anatomy was joined to the foundation, and in place of this in 1858 the Aldrichian Professorship of the Practice of Medicine was annexed. Twenty-one professors have held the Chair in Medicine at Oxford, but with the exceptions of the last four on the list it cannot be said that a single professor has contributed to the subject of medicine anything particularly worthy

of note. So far as can be ascertained they performed their professional duties with little energy, and were thus in part responsible for the poor state of medical education in the University. Kidd was the first professor to make a pronounced attempt to improve the teaching of medicine at Oxford, and his efforts were ably seconded by his successors, Ogle, Acland, Burdon-Sanderson, and Osler.

The *Tomlins Prælectorship in Anatomy* was founded in 1624 by Richard Tomlins for the reason, as the statute states, that "in neither Universities hath there been any anatomical lecture founded or instituted." The statutes made special provisions for this lecture, the chief of which were as follows: (1) The Regius Professor for the time being shall always be the Reader of the lecture; (2) the Reader shall immediately after each Lent Assize obtain a body or carcass entire and in a wholesome state, and shall take care that it is prepared and dissected by a skilful surgeon; (3) on the next morning the Reader shall demonstrate the liver, spleen, belly and intestines, and again in the afternoon; (4) the next morning the Reader shall demonstrate the heart and lungs, and in the afternoon he shall demonstrate the brains; (5) in every Michaelmas Term the Reader shall give three lectures on the skeleton and bones; (6) the necessary hearers shall be all the students of medicine, and all the surgeons in the University; (7) no person shall be admitted to practise medicine or surgery unless he produces a testimonial that he has attended one entire dissection, and one lecture on the skeleton.

Under the provisions of the Tomlins Trust, the Regius Professor was in the position, therefore, to afford some practical knowledge of anatomy to his students, but the inevitable "dispensations" were still operative, and many students availed themselves of this method of escape from practical work. In 1858, the Tomlins bequest was separated from the Chair of the Regius Professorship, and was annexed to the Linacre Chair of Comparative Anatomy.

The *Radcliffe Travelling Fellowships* were conferred upon Oxford by Dr. John Radcliffe, who charged his estates in Yorkshire with a yearly rental of £600 to be paid to University College for the maintenance for ten years of two persons who were Masters of Arts and entered in the physic line. Half of the period was to be spent in travelling in parts beyond the seas for their improvement. The two first Fellows were elected in 1715, and thus began one of the most practical endowments ever conferred upon Oxford. Radcliffe was an Oxford man, and, no doubt, was well aware of the inefficiency of medical education in the

University. The Travelling Fellowships, therefore, were the outcome of his practical mind, and were designed to remove the disadvantages of pursuing medical education at Oxford.

The Lee Readership in Anatomy.—Matthew Lee, a physician in Oxford, and a Fellow of the College of Physicians, on his death in 1765, bequeathed a sum of money to Christ Church for the foundation of a lecture in anatomy, a school of anatomy, and for the provision of anatomical specimens. The hearers of this lecture were to be six members of Christ Church who had been educated at Westminster School, and such others as might wish to attend. The first Lee Reader was John Parsons appointed in 1767, but after a time the Dean of Christ Church accepted the lectures in anatomy given by the Regius Professor as a discharge of the trust. Later, a Special Reader was appointed, and so it remained to the present day.

The Litchfield Trust for Clinical Instruction.—The Radcliffe Infirmary had been built, but since it did not belong to the University little use was made of it by the medical students at Oxford. In 1770, however, the third Earl of Litchfield, then Chancellor of the University, bequeathed money for the foundation of a Chair in Clinical Medicine. Under the provisions of the trust the Clinical Professor was required to attend the Radcliffe Infirmary, to see and prescribe for such patients as might be under his care. He was also required to give notice of a lecture to be given by him every Tuesday on some case in the Infirmary, and all students of medicine at Oxford, in payment of a small fee, were allowed to attend. This foundation was the first attempt to afford clinical instruction, and the first professor was Dr. Parsons. The lectures were not, however, well attended on account of the paucity of the students and the indifference of the professor. A distinct change, came, however, when the chair was occupied by Dr. James Adey Ogle, whose earnestness as a teacher at length met with its reward, and students began to attend regularly the clinical lectures and demonstrations at the Radcliffe Infirmary. In later years the Clinical Chair was abolished, and in its place lecturers in medicine and surgery chosen from the hospital staff were appointed.

The Aldrichian Professors of Medicine, Anatomy and Chemistry.—These professorships were the last of the endowments for the benefit of the study of medicine at Oxford, and were founded by Dr. George Aldrich, of Merton College. By his will Aldrich left a sum of money to the Vice-Chancellor, the Dean of Christ Church, and the Warden of Merton in trust to found three professorships in medicine, anatomy and

chemistry. Dr. Aldrich himself annexed the Chair of Anatomy to the Prælectorship of Anatomy, and therefore to the Chair of the Regius Professor, but in his will he stated that the Professor was to give every winter or spring an entire course of physiology, accompanied by the completed dissection of a dead human body, or shall give one public lecture on some detached subject of anatomy or physiology. Physiology, therefore, is introduced for the first time in this trust as a subject to be taught in the medical curriculum. Chemistry also was introduced for the first time under the terms of the Aldrich trust. The trust took effect in 1803, and the chairs were filled until 1857, when they were abolished, and the emoluments of the Chair of Anatomy were annexed to the Linacre Professorship of Comparative Anatomy, those of the Chair of Medicine to the Regius Professorship, and those of the Chair of Chemistry to pay the demonstrators in that subject. The fact that chemistry was not recognized as a subject in the medical curriculum at Oxford until 1803, may, perhaps, be taken as an example of the lethargy which clogged the advance of the medical school at Oxford.

The study of botany at Oxford had been prosecuted with success since the year 1669, when Robert Morison was appointed the first professor in that subject. Under the influence of Bobart, Trowe, and Dillenius, all of whom occupied the chair, much good work was done, but it was reserved for Daubeny to place the botanical school on a sound basis.

The statistics of those who graduated in medicine at Oxford during the three hundred and fifty years under review are not without interest, and a study of them will do much to clear away misconceptions that have arisen regarding the numbers, and size of the medical school. From 1500 to 1850 less than 1,400 men graduated in medicine and surgery at Oxford, or less than four a year, and if from this number is subtracted the large number of those who were incorporated from other Universities, or who were given medical degrees by diploma and creation the average annual number of medical graduations is not more than three. The school at Oxford, therefore, was never large, and the professors and readers could never have had a large audience. From 1600 to 1700 appears to have been the period when the medical school at Oxford was at its zenith, while the eighteenth century marks its time of greatest depression. One hundred and seventy-two licences to practise medicine were granted, but during the last hundred years only thirty-two were given the privilege. The total number of licences to practise surgery is twenty-three, and the privilege does not appear

to have been conferred after the year 1760. Of the Colleges most favoured by medical students Christ Church heads the list, while Merton, Magdalen and Exeter come next.

The history of medical education at Oxford is not one of constant endeavour to improve the facilities for instruction in that subject. It is rather a record of institutions and methods crumbling away by lapse of time, and indifference. How far the process of reform could have been hastened it is difficult to ascertain, but the fact cannot be denied that the tardiness of improvement gave rise to most of the criticism levelled at the teaching in medicine in the University: criticism which brought about the great change at the hands of the Commissioners in 1856.

CAMBRIDGE.

In considering the history of medical education in the University of Cambridge it will not be necessary to describe so minutely the various forms and ceremonies connected with the medical curriculum, for, although differences of detail do exist between the sister Universities, the conception and plans of the two schools have much in common.

Education at Cambridge throughout the period under review was governed by two sets of statutes: the "*Statuta Antiqua*" and the Statutes of Queen Elizabeth issued in 1570. After that date no great change was made, so far as medicine is concerned, until 1829. Thus for nearly three hundred years the University was content to prescribe for its medical students a course of study instituted in times almost mediaeval.

As at Oxford, although perhaps with less stringency, a course in arts was prescribed before entering upon the study of medicine. For the degree of Bachelor of Arts four years' study were required. In the first year the student studied grammar, rhetoric, arithmetic, and dialectics; during the second year logic, and during the fourth philosophy. The knowledge of these subjects was imparted by means of lectures, and disputations were instituted for the purpose of familiarizing the student with the method of displaying the knowledge acquired at lectures. After completing his studies in logic, that is at the end of the third year, the student became a "General Sophister," and frequented the schools for a year where he heard the disputations, and responded and opposed twice. He was then examined in his own college and, if his knowledge was found to be sufficient, he was then presented as a candidate for admission to respond to the questions, or,

in other words, he was styled a "Quaestionist." The quaestionists were examined in the philosophy schools by the proctors and posers (Moderators), and if approved were presented to the Vice-Chancellor with a supplicat to be admitted "ad respondendum quaestioni." The question was taken from the Prior Analytics of Aristotle, and was proposed by the Father and answered by the Son. This accomplished, the incepting Bachelor became a "Determiner," and stood in the schools from Ash Wednesday until the Thursday before Palm Sunday, or, as it was called, "stood in quadragesima." During this period the student's duties were to oppose and respond in the disputations of the "general sophisters," and after standing in quadragesima he was pronounced by the Proctor to be a complete Bachelor.

Three years occupied in the study of astronomy, cosmography, music, physic, and metaphysics were demanded for the degree of Master of Arts. The students attended lectures and all public disputations, and during this time they were required to make three responsions, a Regent Master opposing, of which two were by way of practice, and the final one in the form of a declamation. At the end of the three years they were admitted by the Vice-Chancellor "ad incipiendum in Artibus"; then followed the exercises for inception or commencement, and finally came those for creation at the Vespertial Disputations. In the foregoing account it will be seen that the course of study for the Arts degree followed very closely the old "trivium" and "quadrivium" of the schools. Every Master of Arts was required to continue his regency for five years, that is, take his share of duty for that period in the schools. Seven years, therefore, were required for the degree of Master of Arts, which was the foundation of those who intended to follow medicine as a profession. The course prescribed approximates closely to the Arts course at Oxford, and the differences observed are not fundamental. The course of study required for the medical degrees may now be investigated, first under the "*Statuta Antiqua*," and then under the Elizabethan code of 1570.

(I) *Statuta Antiqua.*

Under the old statutes of Cambridge University two degrees and two licences in medicine were granted—viz., the degrees of M.D. and M.B. and the licences to practise medicine and surgery. The statute relating to the M.B. degree insisted that "no one shall be permitted to lecture cursorily in medicine—i.e., take the degree of M.B., unless he has first attended lectures in medicine for three years after he

has ceased to attend those in Arts, and if he has not, for five years. . . . Also no one shall be admitted to lecture cursorily in medicine who has not been a Regent in Arts unless he shall have first attended lectures on philosophy for seven years, and medicine for other five years." The statute, therefore, demanded a degree in arts before granting the degree of M.D., but dispensed with that qualification provided seven years had been spent in the study of philosophy, and five years instead of three in the study of medicine. No mention is made in this statute of the exact course of medical study, but it may be presumed that it followed in form that prescribed for the degree of B.A. The statute also enacts that the Regent Master "shall present the candidate as fit, and shall certify concerning him what he knows." In a further statute it is enacted that "as regards those about to lecture cursorily the depositions must be made from the certain knowledge of the deposer concerning the theoretic and practical attainments of the candidate."

The old statutes concerning those licensed to practise medicine and surgery are obscure, and are comprised in a general statute regarding those who practise within the limits of the University. From this statute it would appear that the candidate for the licence in medicine had to be presented to the University by a Regent Master in the faculty of medicine, who was to declare that he is fit for the aforesaid practice, and has been approved by him as sufficient. The candidate thus admitted was required to take oath that he would lecture for two terms within two years on some book of medicine. But if these forms were not observed the candidate could not be admitted to practice unless he had first been approved by some persons deputed by the University.

For the degree of M.D. definite conditions were imposed, and no ambiguity exists concerning their import. The statute enacts: (1) That no one can become a Doctor of Medicine unless he be a Regent in Arts. (2) That he has attended medical lectures for five years at least either in Cambridge or elsewhere in a University. (3) That he must have heard once the following books commented upon—viz., the book of Johannicius, the book of Pulses by Philaretus, the book of Theophilus "de Urinis," and every book of Isaac. (4) That he shall have heard twice the following books commented upon—viz., Galen's "*Liber Tegni*," the book of prognostics, the book of aphorisms, the book "*de Regimine Acutorum*." (5) That he must have read cursorily at least one book of aphorisms, and one of the *Practica*. (6) That he must have been

publicly and principally opponent and respondent in the schools. (7) That he must have been engaged in practice for two years. (8) That he must be approved by depositions of Regent Masters of his faculty. After having complied with these conditions the incepting doctor then took part in the Vespertial Disputations and those of the Comitia, when the Professor or Regent Master proceeded to create him a doctor by giving him a book, placing a cap on his head, a ring on his finger, and by giving him the kiss of fellowship.

The teaching at Cambridge, therefore, was entirely of a theoretical nature, and in form and aim approximated to the scholastic methods in force in the Universities of those days. The statute concerning the requirements for the degree of M.D. does, however, prescribe a period of two years' practice in medicine, and this provision, probably borrowed from Montpellier, is the first enactment in this country demanding a practical knowledge of medicine before becoming a doctor of the faculty. As at Oxford, dispensations could be obtained excusing the candidate from compliance with the statutes, but perhaps it may be stated that they were not granted with such profusion. The whole medical curriculum occupied twelve years from the time the student entered the University, of which five years were spent in the study of medicine.

(II) *The Elizabethan Statutes of 1570.*

By the Elizabethan Statutes of 1570, which replaced the "*Statuta Antiqua*," one great change of principle of somewhat doubtful value was effected in the medical curriculum. Hitherto students of medicine had been required either to take a degree in arts or to spend some years in studying the subjects for that degree before becoming Bachelors of Medicine; and for the M.D. degree, a degree in arts was compulsory before that distinction could be obtained. Under the Elizabethan statutes, however, no such preliminary training in arts was necessary, and the student in medicine could begin the study of that subject as soon as he entered the University. After six years spent in that way he became a Bachelor of Medicine, and after completing another five years, or eleven years in all, he finished the course and took the degree of M.D. The result of this change is seen at once, after an inspection of the lists of medical graduates. During the period under review nearly two-thirds of the graduates in medicine possessed no degree in arts. Although this innovation may have had the effect of attracting to Cambridge men who were anxious to devote the whole of their

energies to the study of medicine and science, it must be admitted that they could hardly be so well equipped for their studies, lacking, as they did, the foundation of a liberal education. For another reason also this change in the statutes is interesting. As is well known, the Royal College of Physicians defended its action in admitting to the Fellowship those only who possessed a medical degree from Oxford and Cambridge, partly on the ground that they had received a thorough preliminary education before proceeding in medicine. How far this was from the truth the facts just given will show. In the case of Oxford the defence of the College is valid, but for three hundred years many Cambridge medical graduates gained admission to the College without any degree in arts.

Another change under the Elizabethan statutes was the appearance of the study of anatomy. Every student before he became a Bachelor of Medicine was required to see two "anatomies," besides responding twice and opposing once in the schools. For the degree of M.D. the Bachelor of Medicine was required to study medicine for five years, and after disputations in the schools and at the Vesperies he was ready to commence as M.D. The Regius Professor was expected to read Hippocrates and Galen on four days in each week, and all medical students were compelled to attend. He was also required to perform one "anatomy" each year if the students wished it.

The statute regarding the licence in surgery demanded of the student the performance of two "anatomies" and at least three cures before he could obtain the licence. No time was specified for study, nor was there any stipulation that he must be examined by the Regius Professor or two Doctors of Medicine.

As time progressed, certain changes were introduced in the Elizabethan statutes. Thus, in 1624, a grace was passed by which it was enacted that doctors who were incorporated from beyond the seas should be required to dispute and respond at Cambridge before being incorporated, and their seniority dated from the day of incorporation. In 1646 a grace was passed for the payment for the dissections at the anatomy lecture. In 1721 a grace was passed, at the instance of the College of Physicians, to the effect that no one should in future be admitted to any medical degree unless he had been approved according to the statutes. In 1681 the candidates for the degree of M.B. were excused one of the acts, and in 1684 residence in the University for nine terms before taking the degree of M.B. was secured.

But the great change which altered the whole idea of medical

education at Cambridge did not take place until 1829, and this was due entirely to the energy and sagacity of Dr. John Haviland, who became Regius Professor in 1817. As a result of his endeavours the medical curriculum was completely re-cast, and the seeds of the system, as we know it to-day, were sown. On February 27, 1829, the Senate passed a grace of which the chief provisions were as follows: (1) The student had to declare his intention of studying medicine in his fourth year at latest; (2) When absent from Cambridge he must bring certificates showing that he had studied medicine in some hospital for at least two years; (3) He must pass the "Little Go" after five terms, and before passing that examination must have been engaged in the study of the classics and mathematics; (4) He must keep nine terms at the University; (5) The Professors of Physic, Anatomy, Chemistry, and Botany were appointed examiners for the degree of M.B.; (6) Written answers to questions set by the examiners were required, and candidates were examined in Latin and Greek; (7) Attendance on lectures were made compulsory; (8) For the licence two years' study was required, and the examination was the same as for the degree of M.B. After the inauguration of this charter, medicine in Cambridge began to make those great strides which have produced such great results.

(III) *Professorships and Lectureships.*

There is evidence that Cambridge showed more enterprise than Oxford in its attempts to bring the medical school in line with the requirements of the age.

The Linacre Readership in Medicine.—This Readership, founded by Linacre in 1524, is the first specific attempt to provide for medical teaching at Cambridge. The Reader was to be paid twelve pounds per annum, and the lectures were to follow the plan laid down for the "More" lectures at Merton College. If the lecture at any time became void, the income reverted to the Master and Fellows of St. John's College. The subsequent history of this lectureship did not differ materially from those at Oxford, and whatever may have been the intentions of the founder, it does not appear that medicine at Cambridge was influenced by the foundation.

The Regius Professors of Physic.—This chair was founded in 1540 by King Henry VIII, and the first occupant was John Blythe. With the important exceptions of the names of Glisson, Brady, and Haviland, the Regius Professors of Physic do not appear to have been very

distinguished until the latter part of the nineteenth century is reached. Glisson undoubtedly gave an impetus to the study of medicine and anatomy during his tenure of the chair, and, as has already been described, to Haviland belongs the credit of having given to Cambridge the first idea of a modern medical school.

The Re-foundation of Gonville Hall.—When John Caius re-founded the college which bears his name he made adequate provision for the study of medicine, for of the three new fellowships instituted, two were to be held by medical men. Besides this he made ample arrangements for the study of anatomy, and obtained from Queen Elizabeth a grant of two bodies, for "anatomy," of felons condemned to death "in the Town, Castle, or County of Cambridge." Very little use, however, was made of these Medical Fellowships, and the only effect was some stimulation afforded to the study of anatomy by the provision of bodies for dissection. Caius College soon enjoyed a reputation as a college for medical students and easily held the first place at Cambridge in that respect.

The Professors of Chemistry.—A Chair in Chemistry was established as early as 1703, when Francis Vigani was appointed the first Professor in recognition of his long service as a lecturer in chemistry at Cambridge. It was owing to Richard Bentley that the first laboratory was fitted up at Cambridge for Vigani, and here Stephen Hales carried out some of his early experiments in physiology. From this small laboratory sprang those large and complete physiological and chemical schools which have enabled Cambridge to take such a prominent place in science.

The Professors of Anatomy.—Until 1707, anatomy was taught by the Regius Professor of Physic, but in that year a chair in the subject was created, and George Rolfe became its first occupant. In 1716 the Professor was accommodated in the building which was formerly the printing press, and this he shared with the Professor of Chemistry. Two of the Professors of Anatomy, Busick Harwood and William Clark, were responsible for the nucleus collection of specimens relating to comparative anatomy, and out of this came the school which has done so much to make Cambridge famous as a school of science.

The Downing Professorship of Medicine was established in 1800 by Sir George Downing, the founder of the college which bears his name, and Busick Harwood was the first occupant of the chair. It has never, however, exerted any profound influence over medical study in the University.

The Professorship of Botany was established in 1724, and the first

Professor was Richard Bradley, who, though famous as a botanist, caused scandal on account of his complete ignorance of the Latin tongue. The Herbarium was begun by John Martyn in 1733 and in 1762 a botanic garden was formed through the munificence of Dr. Richard Walker. Professor Henslow did much to further the study of this subject, and he will always be remembered as the inspirer of the genius of Charles Darwin.

Addenbrooke's Hospital was founded in 1719 by John Addenbrooke, M.D., of St. Catherine's Hall, and has afforded limited facilities for the study of medicine.

The total number of medical graduates during the period under review does not amount to 1,600, and if those admitted by incorporation, and "per Literas Regias" be omitted, the number is about 1,300. The licence to practise surgery does not appear to have been granted after 1760, and from that time the licence to practise medicine appears to have been rarely given.

As a general proposition it may be stated that Cambridge was in advance of Oxford in the teaching of medicine and allied sciences. This fact may be due to the latitude allowed to students at Cambridge to specialize in particular subjects, and to the influence of mathematical and physical sciences upon the Cambridge curriculum. For Descartes and Bacon dominated Cambridge during the seventeenth century, and then came Newton, the glory of the University. After his advent Cambridge was given over entirely to the mathematical spirit, and out of that proceeded all the scientific advance, the fruits of which are seen at the present day.

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Baths and Bathing in Ancient Greece.¹

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THE discussion of the bathing customs of Ancient Greece is naturally approached by way of the Minoan civilization, and as we contemplate the magnificent monuments of Knossos, our thoughts dwell upon the treasures of the powerful Minos, whom Odysseus saw in Hades, "Holding a golden wand and dealing dooms to the dead." (Odyssey, xi, 569.) From this wonderful State organization originated the famous laws of Gortyn, the most detailed code of ancient times, and perhaps also the discovery of metallurgy and linear writing. The cradle of the Minoan culture shows us, among other things in the treasures of Knossos, the famous palace with its beautiful marine paintings, its picturesque mural decorations and many other important and valuable items. This palace, which covers an area of 22,500 square metres, reveals the existence of an industrial department in which engravers, modellers, sculptors and painters executed their masterpieces during the golden age of Crete.

We are here, however, chiefly concerned with but one part of the famous palace, and we turn our attention to a special room, paved with solid Santorin earth, the cement of the present day. The room dates from the fifteenth century B.C. but contains a bath that might seem to be of modern manufacture. The paving of this bathroom, with its solid and compact cement, its arrangement for the prompt discharge of water, and the perfect system of sewers which carried off the waste

¹ At a meeting of the Section, held April 21, 1920.

household water to the main drain, afford proofs of the hygienic use of baths for cleansing the body in this early period and testify to an adequate system of domestic sanitation.

In a later epoch of civilization, the period of Mycenae, during the Trojan War (1194-1184 B.C.), Homer makes the following reference to our subject: "But Atreus' son bade the folk purify themselves and cast the washings in the sea." (*Iliad*, i, 313-4.) Agamemnon had in fact exhorted the people to bathe in order to disinfect themselves; and they did so by the sea-shore of historic Troy. With *sea-water* they cleansed their bodies of the pestilential dirt and then drained the infected waters into the sea. Does not modern hygiene consider the *tout à la mer* method as the most efficacious of drainage systems?

In the Iatrieia and Asclepieia, the healing temples of the ancients, the patients, on their arrival, bathed, preferably in sea-water, as is witnessed by the tablets recording the cures; as Aristophanes writes: "First we brought him down to the brine, then washed him." (*Plut.*, 656-7.)

Sea-bathing is frequently represented in Greek art. Thus on an engraved goblet in the British Museum we see Thetis bathing on the beach. The whole scene is characteristic; a dolphin gambolling round the feet of the maid-servant who offers a sheet to the bathing heroine. At other times, bathing took place in rivers. Nausikaa, daughter of Alkinous, King of the Phaeacians, goes with her waiting-women to the river to wash her clothes and subsequently bathes herself: "When they were come to the river's lovely stream, where there were washing troughs, where water, ever full and pure, wells up in plenty to cleanse clothes however soiled . . . and when they had washed and cleansed away all the dirt . . . having washed themselves and anointed themselves with oil." (*Odyssey*, vi, 85-87, 93, 96.) Ulysses, after the departure of the women, took his bath in the same place and afterwards shone with beauty and grace. "But goodly Odysseus washed off him with river water the brine that covered his back and broad shoulders and wiped from his head the foam of the waste sea. But after he had washed all over and anointed himself with oil . . . shining with grace and beauty." (*Odyssey*, vi, 224-7, 237.)

Europa bathed in the river Anauros and Helen with her companions in the Eurotas. (*Theocritus*, xviii, 23.) The Greeks frequently bathed in hot springs. The poets sometimes speak of them as baths of Heracles, caused to spring for his benefit by Hephaestus or Athene. Pindar refers to the hot baths where nymphs bathed: "The hot

bathing places of the nymphs." (Ol., xii, 27.) Homer, too, praised the two springs of Skamander, one for its warm and the other for its cold water: "And they came to the two fair wells, where the two springs of eddying Skamander spurt out. The one runs warm and steam goes up from it all about, as it were smoke of fire; the other flows cold in summer as hail or snow or ice." (Iliad, xxii, 147-152.)

Thus baths played an important part in the daily life of the Ancient Greeks and their influence for strengthening the body, a matter of great importance to the ancients, became rooted in their customs. During the Homeric period they were attributed by poets to the gods themselves: "And Hebe washed him and put fine clothes upon him, and he sat by Zeus, Kronos' son, exulting in his glory." (Iliad, v, 905-6.)

The numerous utensils for bathing purposes in the ancient household afford indubitable proof of the extensive use of baths. Every well-to-do household contained a bathroom, with one or more bathing tubs, close to the entrance hall. In the Homeric period, the function of the bathing tub was served by long troughs carved out of marble or sometimes made of silver. Afterwards, when these were no longer used, the Greeks took their baths in large vessels, standing on one or more feet, named *louteres* and *louteria*. Larger marble *louteres* used in households and afterwards in public establishments were called *colymbethrai*, *pyeloi* and *maktrai*.¹ "There was also a bathroom with three couches. It contained three brass tubs and variegated *louteres*, holding about forty-five gallons, made of stone from Tauromenium" (Athenaeus, *Deipnosophistae*, v, 207f). This bathing establishment was in a ship built by Hiero of Syracuse. And we read of "the *pyelos*, that is to say the bath tub; a *pyelos* is a trench, bath, in which people wash." (Scol. in Aristoph. *Equit.* 1060; cp. also Hesychius s. v. *pyelos*.)

In households, bathrooms were not only used by the residents, but they were also at the disposal of every guest on his arrival. They were especially used on return from a journey or after any sort of exertion. The bath was usually taken hot for the recuperation of the body and to repose the weary limbs, as is evidently the meaning of a sentence in the *Odyssey*: "She made me get into a tub and washed me with water from a great cauldron, tempered to a pleasant warmth, pouring it over my head and shoulders, till she had taken the distressing weariness from my limbs. And when she had washed me and anointed me with oil—" (*Odyssey*, x, 361-364.)

¹ Pollux, *Onomast.*, vii, chap. 33 (paragraph 157), and x, chap. 10 (paragraph 46).

It is likewise mentioned in the tenth book of the *Iliad*, that Ulysses and Diomedes, on their return from the night expedition in which they took the horses of Rhesus, first of all bathed in the sea and afterwards washed and anointed themselves in the bathing establishments: "They got into the well-polished bathing tubs and washed. And when they had washed and anointed themselves with oil they sat down to table." (*Iliad*, x, 576-8.)

Cold baths were considered as strengthening the body and warm baths as giving it tone and vigour. Philosophers and physicians in those ancient days praised baths as giving good health and vigour to the bathers. Baths were generally taken before supper, as shown in the last quotation. Non-bathers were branded as "dirty and filthy," e.g.: "With a short Spartan coat, grimy, filthy, unwashed." (Aristoph. *Lys.*, 278-80.)

Homer tells us that Telemachus, accepting the hospitality in Nestor's palace, bathed and was anointed with oil, after which, he was equal to the gods in beauty and was accordingly seated near Nestor, the shepherd of the people. It is well known that the criterion of beauty among the ancients was physical health and vigour and we must agree with them as to the influence of the bath: "He came out of the bathtub, in body like the immortals, and he went and sat by Nestor, shepherd of the folk." (*Odyssey*, iii, 468-9.)

In the *Odyssey* the first mark of respect that was bestowed at the Palace of Menelaus upon Telemachus and Pisistratus, son of Nestor, on their arrival, was a bath in a beautiful bathroom. It is worthy of notice that before laying food before the guests, it was the custom for the maid-servant to pour out water for them to wash their hands, thus following the dictates of modern hygiene in avoiding infection of the food by dust or germs that may be on the hands: "But when they were satisfied with gazing thereon, they got into the polished tubs and washed. And when the hand-maids had washed and anointed them and put shirts on them and thick cloaks, they sat down beside Menelaus, Atreus' son, and a maid-servant brought water for the hands in a fair golden ewer and poured it out over a silver basin for them to wash, and set out a polished table beside them." (*Odyssey* iv, 47-54.)

The poet explains more clearly the connexion between the washing of hands and the partaking of meals, relating afterwards that Asphalion, the faithful servant of Menelaus, poured out water for the guests in order that they might wash their hands previous to partaking of their meals: "So he spake and Asphalion, the ready henchman of noble

Menelaus, poured water on their hands and they stretched out their hands to the cheer set by them." (Odyssey iv, 216-9.)

The water was heated in a great cauldron, as is shown by the duties of the waiting-woman of Circe who "was wont to bring the water and kindle the fire." (Odyssey, x, 358.)

From the material, marble or silver, of which the Ancient Greeks made the louter we may infer firstly, the great importance which was attributed to the vessel itself, and secondly, the care taken for the perfect cleanliness of that vessel, which is more easily cleaned when made of marble or silver than if it were of clay or some other similar material.

The widespread use of baths by the Greeks is mentioned by other ancient authors, as for example by Aristophanes, while Theophrastus describes as characteristic of impudence the man who goes to the cauldrons in the public bath and after drawing water with the bucket and pouring it over his body, despite the bathman's remonstrance, leaves the place, saying that he has taken his bath and owes nothing: "He has a trick of going to the cauldrons of the baths and dipping the ladle, in spite of the bathman's shouts, he empties it over himself and says that he has had his bath, adding 'No thanks to you.'" (Theophrast. Charact. 9; where the public use of bathing establishments is clearly shown.)

The orator Isaeus refers to the repairing of a bathing establishment: "Regarding the repair of the baths and the building he undertook Dicaiogenes will perhaps repeat what he said before." (Isaeus, Or. v. § 28.)

The Lacedaemonians also considered frequent bathing indispensable; they bathed daily in the Eurotas. Xenophon says: "When Agesilaus left the Eurotas and went home." (Xen., Hell., v. 4, 28.) And Plutarch states that Alcibiades, when in Sparta, delighted the Spartans by adopting their customs: "He enchanted them by adopting Spartan manners, so that when they saw him with a shock of hair and taking cold baths." (Plut. Alcib. 23); where cold bathing is observed to be one of the Lacedaemonians' habits.

The ancient Greeks also made use of vapour baths, the room being artificially heated from below. These sudatory baths are mentioned by Herodotus: "And the Scythians howl with pleasure at the vapour bath. This serves them instead of a water bath." (Hdt., iv, 75. See also Pollux, vii, Chap. 33, § 168.) Again Athenaeus writes: "They are also acquainted with all kinds of baths which cure pains, banishing fatigue by washing in sea-water, which is excellent for the sinews, and

relaxing muscular tension by the use of the tub" (Athen. Deipnosoph. i, 44); where he refers to baths as curing pains and as lessening the tension of the muscles and hence neutralizing fatigue. And, besides the passage cited above, he mentions hot and cold baths which the Sybarites enjoyed: "They used to make visits to the caves of the nymphs called Lusiades (nymphs of the bath) and luxuriate there. Among the Sybarites were likewise found pyeloi (tubs) in which they used to lie and take vapour baths."

In Plutarch's "Kimon," these baths are called pyriateria, "on his return they appointed him gymnasiarch and afterwards as he was anointing himself in the vapour bath . . ." (Plutarch, Kimon 1.)

Later on, the Romans called the room in bathing places which was used in the same way "Laconicum," because this kind of bath was used by the Lacedaemonians (Dio Cassius, Hist. Rom. liii, 27). So also Strabo writes: "They say that some of the people that dwell near the river Duris follow the Spartan regimen, making use of anointing chambers and vapour baths contrived with red hot stones, taking cold baths and using only one kind of food in a cleanly and frugal manner" (Strabo, Geogr. iii, § 154). Strabo refers to warm springs in Euboea which were used as therapeutic baths: "In it there are hot springs of use in the treatment of diseases, to which Cornelius Sulla, the Roman general, had recourse" (Strabo, Geogr. x, § 447); and the same author speaks of the hot springs of Nisyros which to the present day are used for therapeutic purposes: "And Nisyros is north of Telos . . . and has a town, also called Nisyros, and a harbour and hot springs and a temple of Poseidon" (Strabo, Geogr. x, § 488).

If we now review the treasury of vases, goblets and cruets of the ancient Greeks, which Professor Sudhoff has investigated, we shall better understand the use of partial and total baths dating back to the earliest stages of that glorious Greek period. "Partial baths," such as for instance, foot-baths, were extensively used from Homer's time and were sometimes substituted for the total bath as being simpler. Indeed, in the *Odyssey* Ulysses is reported as saying that after his terrible hardships, his heart could not wish for anything, not even a foot-bath: "Neither is washing of the feet grateful to me nor shall any woman touch my foot of those, &c." (*Odyssey* xx, 343-4); and later on it is stated that the old wet-nurse Eurykleia poured hot and cold water in a polished basin and washed the feet of the honoured guest: "So he spoke; and the crone took the shining basin wherein she washed men's feet, pouring in much cold water and then adding hot . . . and going near she made to wash her lord." (*Odyssey*, xx, 386-8, 392.)

The duty of foot-washing or of giving a complete bath to the guests devolved specially on the maid-servants but, exceptionally, and as a mark of respect to her old and venerable guest, Penelope entrusted it to the favourite old wet-nurse. The vessels used were usually of copper or bronze and were called *podanipteres*.

An engraving of a *podanipter* representing the goblet of *Hermes* in the collection of the British Museum has been copied in the work of *Sudhoff*: an elegant woman uses all the strength of her well developed arms to lift up from the tripod the weighty four-handled bronze vessel. The complete nudity of the woman with her hair confined in a cap conveyed to *Sudhoff* the idea that a more complete bath had preceded, or that after filling up the vessel, the woman bathed not only her feet but also her body. Hence, it is probable from the design that the various vessels used for foot-washing, being of different dimensions and forms, could also be utilized for washing the rest of the body.

On other ancient vases, upon which the manners and customs of the Greeks are portrayed, there may be seen figures of naked women, sitting doubled up and holding a sponge as is seen in the Munich Collection (eleventh century B.C.). In some instances, the bather is represented as sitting under a spring fountain, the water spouting out of a beast's mouth. Other representations often show a naked woman sitting on the floor. A nurse, usually dressed, is by her, pouring water on her loose hair, as may be seen upon a goblet in *Petrograd*. One whole series of fine goblets shows the arrangement and forms of bath tubs. More often, the form of a marble or metal basin is represented as resting on a graceful pedestal. Elegant architectural details show a fluted pedestal of the bath tub. In the hollow of the bath flows a fountain springing from a beast's head embedded in the wall.

Generally, the heavy *louteres* were immovable under the wall fountain, but sometimes they were removed for use and placed under the water spring, as is shown in a picture in the Naples Museum. A woman is holding the *podanipter* under the head of the panther from which flows out the water upon her hands while the bath towel is lying down behind her on the floor. In the Naples Museum, there are vases representing *louteres* in which flows the water as it springs from the fountain. Another series of engravings suggests that the water was carried in large or small vessels and was poured in the *louter*. The painter *Brugos* painted a very dainty scene: a girl, her hair bound with a thin ribbon and her bath towel twisted round her left arm, carries in her right hand a big bucket of water to be poured into the *podanipter*.

A drawing in the London Collection represents another private bath-room. By the deep bath in the women's apartments, two girls are very busy. The towels hang on the wall behind each of them. Between is placed at the same height the sponge and the indispensable scent-cruet, the *aryballos*. The hair of both hangs freely in rich coils over their back. The girl on the left is washing her feet with a sponge.

Another scene painted by Automenes upon a vessel represents a man's bath at the end of the sixth century B.C. In the middle of a grove near the wrestling arena was built the temple-like bath. There was an elegant colonnade from which, at about 2 metres height, water sprang from a panther's head. After exercise, hunters sat under the spring in order to get rid of the dust, sand and perspiration, after which they stepped out into the open air to dry and anoint themselves with scented oil. One colonnade for the shower bath was the beginning of what afterwards became the very elegantly built and ornamental *louteres* of the Greeks and Romans. Further, as the painting testifies, they used to hang their clothes as well as the indispensable scent-cruet on the branches of a tree by the colonnade.

In the more ancient Athenian shower-baths which consisted of one colonnade only, there was no undressing room, oil cupboard or anointing room, nor was there a special servant (*balaneus*, *parachytes*, *loutrochoos*) for the bath and massage. These are met with only in the later bathing places, and it must be noticed that in this more ancient type of bath that the Greeks used is the very same form of bathing approved of at the present day as most hygienic, for the shower bath which protects the bather from infection is thus the best suited for public bathing establishments.

During the sixth and fifth centuries B.C. there were also in Athens public baths for women. Such a one is painted on a vase in the Berlin Museum. In the different sections of a closed colonnade are affixed at the same height fountains representing heads of panthers, lions or wild boars. These fountains discharge water over naked women who sit below and energetically scrub their skin and flowing hair. It seems that in this bath the floor was converted into a kind of reservoir, in which the outflow could be stopped at will. This is inferred from the fact that the four women in the painting are only knee-deep in water.

Lastly, we have the painting of a larger and more important bath to be seen on a goblet now at the Louvre. In this the painter Andokides

has represented a swimming bath—a large reservoir of running water, so vast and deep that a person could swim and dive into it. One of the women is shown swimming, the other ready to dive into the water. Two of the females wear necklaces, and three wear earrings, but all are otherwise completely naked.

Swimming was generally much in vogue with the ancient Greeks, and to the present day swimming is considered as the most efficient and healthy form of exercise, because the swimmer benefits by the pure air, the cleansing influence of the water on the skin, and the exercise. The Greeks branded with ignorance and barbarism those who could not swim and could not read and write, who had "neither swimming nor the alphabet." (Diog. vi, 56.)

The Germans excavating at Pergamos found the bathroom of a higher gymnasium. On the floor were found two vessels for washing the feet. Near the wall were arranged in a circle big *louteres*. In other places are fountains embedded in the wall without *louteres* underneath to collect the water for washing purposes. The water was poured out on the hands and body of the bather and afterwards ran about the floor.

Thus we learn, from both text and vase painting, that bathing places were the rule in the more refined private dwellings; and that at the public wrestling places, gymnasiums, there were public bathing establishments. An engraved bathing vessel has come to light on which can be read the inscription "Public"; and this vessel must have been used at such a resort as we have described.

In public baths the bather paid something for his bath; the price at the time of Lucian was 2 obols. "And do you, boy, transport to the bath my scraper and mat and towels and soap, and bring the bath money. You will find 2 obols a-ground by the chest." (Lucian, *Lexiph.* 2.) So that the popular prices of the public baths of modern European towns, far from being a recent innovation, are merely a reversion to the customs of the ancient Greeks. Private baths are also mentioned by various authors. Plutarch refers to a certain Democles who was going to bathe in a private bath; "He used to visit a private bath to bathe." (Plut., *Demetr. Poliore.* 24.) And Isaeus says that a private bath was sold for 3,000 drachmas. (Isaeus, *Or.* 6, § 33.)

Xenophon speaks of a private bath reserved for the exclusive use of the inmates of a house. The author informs us that though some rich people had private gymnasiums and baths of their own, the community had specially built public baths and bathing establishments, which were

more enjoyed by the mass of the people than by the privileged few. "Some of the rich have private gymnasia, bathing and dressing rooms, but the people builds for its own use many wrestling schools, dressing rooms and bathing establishments, and the populace has greater benefits from them than the rich." (Xenoph. Resp. Ath. ii, § 10.)

In later times we find the public bathing establishments were enlarged, so as to contain not only the tanks but also massage rooms, where the bathers were anointed with oil, as well as dressing rooms. In some baths the bather was first washed with hot water in order to cleanse his skin. After that, an attendant (*balaneus* or *parachytes*) poured cold water with the *arytaina* on his shoulders or head, as implied by Plato (Repub. i, 344), and in similar words by Lucian: "To drench me like a bathman" (Lucian, Demosth. Enc., 16), and as actually mentioned by Plutarch: "For example, the citizens conceived such a detestation and aversion of those who had maliciously prosecuted Socrates, considering them men who had touched the lowest depths of wickedness, that they refused to give them a light for their fire or answer their questions or share the same bath water. They made the attendants pour the water away, as if it were polluted." (Plut., de Invid., vi, § 538.)

The bathers brought with them scrapers of iron or other material, oil and bath-clothes. (Plut., Inst. Lac., 32; Lucian, Lexiph., 2.) The Greeks also used for cleansing the body different substances, usually called *rhymma*, which were provided by the bath attendant.

"If you have soap, I will provide the bath." (Aristoph., Lysist., 377.)

Bathing was a preliminary to supper during that time, when the charm of beauty was so much appreciated and enjoyed. "To bathe and then take lunch." (Lucian, Lexiph., 2.)

The Iatrieia and Asclepieia of Ancient Greece are the earliest sanatoria, and many of the cures applied in these sacred infirmaries have been recorded. The learned researches of Köhler, Girard, Koumanoudis, Kavvadias, Defrasse, Kail and Hertzog have exhumed these sacred sanatoria from the depths of the Greek soil. A colleague, Dr. Aravantinos, has studied on the spot these sacred ruins, and gives a detailed description in his work, "Asclepios and Asclepieia." First, let us visit that very ancient sanatorium, the temple of Amphiaraus, situated at Oropus between Attica and Boeotia. Here the hero Amphiaraus was swallowed up by the earth with his four-horse chariot. But he returned therefrom, by the agency of a god, commanding prophetic and therapeutical powers, and here was erected a magnificent

temple and oracle built and dedicated to him in a wonderfully picturesque spot. The excavation of this precinct has disclosed its principal parts—an altar, a temple, a colonnade, seats upon which the patients rested, a theatre and, what is more interesting to us, a bathroom with a spring. This bathroom, we learn from an inscription, was furnished with hot and cold water, and there were separate rooms for men and women. It is also known from another inscription discovered in the temple that the Athenians, as a mark of gratitude to the god who dispensed health, encircled the brow of his statue with a golden crown. The inscription may be thus rendered: "The decision of the people to dedicate the crown to the god in a sacred shrine for the sake of the health and safety of the people of Athens, their children and everything in the country."

Near the entrance of the Temple of Amphiaraus was a limpid and murmuring spring, which is still known for its healing properties. Its composition has been analysed by Professor Christomanos.

We may now visit another mysterious temple in the "Cave of Trophonius": a charming spot near a magnificent river with its banks planted all over and called Herkyna. A systematic excavation of this place has not yet been carried out. A thick veil of mystery still shrouds the hiding place of its sites. But the description of Pausanias shows that the patients were placed on arrival in a small building dedicated to "Fortune" and there underwent a daily course of hot baths, strict cleanliness and hygienic diet. The patient, before entering the mysterious cave was led by the priests to the stream where he was thoroughly washed and subsequently anointed with oil. He was afterwards taken to the two other springs, the springs of Lethe and Mneme (Forgetfulness and Memory), of both of which he drank abundantly. Throughout the famous "Iatrieia," baths and hydrotherapy were considered as most important and as the chief means of therapeutical hygiene. The patients were cleansed externally in the rivers and internally by draughts of water from the sacred springs to which they attributed a symbolic meaning, as in the cave of Trophonius.

Another temple of health was the "Asclepieion" of Athens, excavated in 1876. It is situated on the southern side of the Acropolis between the two Theatres of Dionyses and Herodes Atticus. The distant and beautiful view of the Saronic Gulf proves that the Greeks took care that these sanctuaries should enjoy an agreeable outlook. This Temple was built in the fifth century B.C., and has been described by Köhler, Girard, Koumanoudis, Aravantinos and others.

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Köhler and Aravantinos consider that the slightly brackish spring which flows to this day was the sacred spring of Æsklepios. The water springs from a cave situated in the rock of the Acropolis, under the northern wall of the Temple and beyond the central part of the Asclepieion. Thus, in this Temple too existed the indispensable medicinal spring for the water cures. In this sanctuary, to which Aristophanes refers, the patients made a daily use of baths.

The celebrated Temple of Epidauros was excavated by the Greek Archæological Society in 1886 on the initiative of Professor Castorchis and under the direction of Inspector Cavvadias. This Temple, 2,500 years old, displays wonderful elegance and is composed of magnificent buildings, richly decorated. The bath has been described by Defrasse. It belongs to a subsequent Roman epoch but is built on the foundations of a more ancient Greek one. At the south-eastern angle of the first colonnade of the Abaton, or sacred sleeping place, there was an ancient spring constantly full of water which exists to the present day, which Mr. Cavvadias thinks is the sacred well of Æsklepios. The water of this sacred well has been analysed by Professor Damverghis, as well as the water of the springs Relia and St. Anne, both of which rise in the surroundings of the Temple. The examination shows that water from these three sources has the same chemical constituents. It can be classified among the light alkaline waters, abundant draughts of which are salutary to persons afflicted with gravel, stone and stomach disorders. It is probable that in the Temple of Æsklepios in Epidauros, the water from the well was used for therapeutic purposes. Chemical analysis shows that this water would be the most efficacious of the three as it contains a larger amount of salts. The results of the analysis are as follows:—

| Solid substances contained in 1 litre of water (1,000 c.c.) | Water of Æsklepios well | Water of Relia spring | Water of St. Anne spring |
|--|----------------------------|--------------------------|-----------------------------|
| Calcium bicarbonate ... | 0.395 | 0.346 | 0.458 |
| Magnesium bicarbonate ... | 0.083 | 0.036 | 0.025 |
| Sodium bicarbonate ... | 0.132 | 0.075 | 0.075 |
| Calcium chloride ... | 0.037 | 0.039 | 0.004 |
| Magnesium chloride ... | 0.007 | 0.005 | 0.005 |
| Potassium chloride ... | 0.001 | 0.001 | 0.002 |
| Sulphate of calcium ... | 0.014 | 0.014 | 0.022 |
| Iron and aluminium oxides | 0.003 | 0.002 | 0.003 |
| Pyrites ... | 0.043 | 0.040 | 0.034 |
| Ammonia ... | Traces | Traces | Traces |
| Phosphoric acid ... | " | " | " |
| Nitric acid ... | " | " | " |
| Organic substances ... | " | " | " |
| Total of solid substances ... gr. | 0.665 | 0.558 | 0.628 |

Behind this well remains to this day the marble seat used by the frequenters of the Temple, near which Cavvadias discovered the well-known tablets describing the cures. These seem to prove that the well was used as a means of refreshment to the patients who could walk about. We must note that the eastern wall, near which is the well, has an opening, which probably communicated with the bath, and the bath was probably used in conjunction with the mineral water of the sacred well. In this Temple, as well as in that of Asclepios in Athens and in the more ancient Trophonian caves, there was a statue of Asclepios together with the twin statue of the goddess Hygieia. The statue of Hygieia, in addition to its religious meaning, undoubtedly shows the success of the cures and the utility of the medicinal springs.

To the Asclepieia, patients flocked in thousands from all parts of Greece to benefit from the miraculous cures. In the process of cure a very important place was occupied by the baths. Indeed, the general bath was directly looked upon as the most wholesome and purifying means used in these sanctuaries which were erected in the most picturesque spots, in immense groves, with numerous cold bubbling springs and brooks. Hippocrates concludes his work on the "Treatment of Acute Diseases" by a lecture on the bath as the most useful adjunct in these diseases, if properly taken.

Of Hippocrates, Strabo writes: "They say that Hippocrates gained a great deal of his experience in medical treatment from the lore of which this temple was a repository." (Strabo, Geogr., xiv, § 657.)

Hippocrates also speaks about private baths and remarks that all were not suitably built: "A bath would be useful to many sufferers, to be employed in some ailments continuously, in others not. Sometimes it is not advisable to employ it, because of people's failure to make proper arrangements, for only in few houses are utensils and operators adequately provided. But a sick person, who was bathed not in the properest manner, would suffer no small harm from it." (Hippocrates, *Acut.*, 18 L. 65.)

At a much later period, the philosopher Lucian, the Voltaire of Greek antiquity, in his "Hippias, or Bath Establishment," gives a description of hot and cold baths:—

"The superstructure having the proper amount of illumination. . . . The portico is lofty, with broad steps and a gentle, not steep, incline for ease of ascent. This leads the visitor into a spacious hall, where servants and attendants can conveniently wait . . . a great ornament to a bathing establishment are handsome and well lit retiring rooms . . .

and between them a very high and very bright hall, with three tanks of cold water, lined with green marble, and two white statues of the ancient kind, one of Health and the other of Asclepios.

"He proceeds next into an oval room moderately warm and welcoming him with a pleasant heat, beyond which on the right is a very cheerful room leading from the palaestra, delightful to anoint oneself in, with doorways of Phrygian marble on both sides. Then comes the finest room of all . . . and next he enters the warm passage, incrustated with marble. The interior hall is very fine, bathed in light and clothed as it were with purple. Here also are three hot bathing-troughs, and when you have bathed you can return to the cold water quickly without passing again through the same rooms, by a pleasantly warm side room bathed in light and brightness.

"In addition, the proportion of the building and the rooms are just, and grace and charm preside over the whole. As Pindar beautifully says: 'When a work is beginning its front must be made such as to shine afar, and this can be best managed by the arrangements made for the distribution of light and brightness by means of windows.' Hippias, a truly wise man, has made his cold bathroom face northward, while those that require much heat he has exposed to south and east and west. What need have I to speak of the rooms for exercise and the wardrobes with their quick and short access to the bath, calculated for convenience and safety? . . . Hippias has admirably displayed in this work of his all the merits of a bathing establishment, utility, convenience, light, symmetry, excellent adaptation to its situation, complete safety in use, and in addition he has thoughtfully provided it with two privies, and given it a large number of exits and two clocks—one a water clock, which indicates the time by a roaring sound, the other a sun clock." (Lucian, *Hippias s. Balneum*, 4-8.)

Here the witty author affirms that the bath establishments of this age were comfortable, agreeable and of beautiful architecture, but they were also built in accordance with modern hygienic requirements, and the abundant light gave health and gaiety to all the departments and disinfected the privies.

The proportion of width, height and position of the building with regard to the sun as well as the presence of the statue of Hygieia, proclaimed the close relationship of the building with the strengthening of the bathers and, in general, the whole arrangement of the bath is such that it may serve as a model sanatorium even to this day.

In this short and imperfect study we have sought to show that the

twentieth century, as regards the vital question of baths, is but a copy of that brilliant epoch of the ancient Greeks. Their highly civilized age has enlightened all subsequent epochs.

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Section of the History of Medicine.

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Some Greek Medical Terms with Reference to St. Luke and "Liddell and Scott."¹

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ABOUT a century ago Carl Ferdinand von Graefe dedicated to all the crowned heads in Europe a book entitled "*Logado-blennorrhæa*." The meaning of this word could have only been guessed from the alternative title, "the prevalence of Egyptian contagious ophthalmia in the allied armies during the war of Liberation, 1813-1814."

Logado-blennorrhæa is a striking sample of modern medical terminology, which consists of words nearly all derived from Greek or Latin, some ancient and others of obviously recent manufacture.

Λογάδες.—Thus *Logades* is used in *Nicander's* poem on venomous beasts, of the stony eyes of serpents, and by a poet of the Anthology of the bright eyes of his mistress, but was probably found by von Graefe in the *Onomasticon* of Pollux, who says the singular "*logas*" (*λογάς*) means the white of the eye, but he does not call it a medical term, and it is not so used by any extant Greek medical writer.

In the early Middle Ages, when Greek was almost forgotten in the West, its medical terminology became much corrupted, and a collection of curious words thus evolved may be found in the early Latin version of *Oribasius*, published by Daremberg.

Φλέψ κοίλη.—One of the most interesting developments is that which took place in the process of converting *phleps koilē* into *vena cava*. *Koilē* became *kīli*, which seems to have been taken for an ablative (as in the "Anatomy," ascribed to Ricardus Anglicus—in *vena kīli*). A nominative, *kīlis*, was provided for this curious word which the

¹ At a meeting of the Section, held May 19, 1920.

Italian anatomists, Mondino and Manfredi, naturally spelt with *ch* as *chilis*. Samples from both writers may be found in Dr. Singer's edition of "Manfredi." This *vena chilis* was afterwards supposed to have some connexion with the lacteals or thoracic duct, and the discovery of those structures attributed to the mediaeval anatomists.

Καταράκτης (cataracta).—Other terms filtered in through the Latin in pure form. Of these the most curious is "*cataract*"—a Greek word early adopted by the Romans in the sense of a portcullis or sluice-gate. It does not appear to have been used as a medical term before the time of Constantine the African, famous in the history of the school of Salerno; and he used it both of the epiglottis—a glottis which acts as a cataract, portcullis, or sluice-gate to close the windpipe;¹ and also in place of the Greek *hypochysis* (ὑπόχυσις) of cataract of the eye, which till comparatively recent times was held to be not an affection of the lens but something coming down in front of it like a portcullis or sluice-gate. Thus Guy of Chauliac says it is so called from the "*cataract of a mill*."

At the Renaissance, Vesalius and his followers made a point of ridding anatomical nomenclature not only of Arabic but also of Greek terms, as favouring Galenism; even pylorus was replaced for a time by janitor or portiniarius, and our anatomical nomenclature became, and still remains, almost entirely Latin. For instance, of more than forty terms dealing with the eye in the "*Nomina Anatomica*" of his, only iris, choroid, sclera, crystallina, trochlea, can claim Greek origin and some of them are latinized. Similarly, Pollux tells us that Aristotle knew only one term for a part of the external ear, namely *Lobos* (λόβος), but that in the next five centuries physicians had invented twenty more, which he gives. Our modern list contains more than thirty, but the great majority are Latin, even *Lobus* being latinized to *Lobulus*. *Helix*, *antherix*, *tragus*, *antitragus*, *concha*, *scapa*, which remain, were practically Latin in classical times, but the casket (κυψέλη), the poppy head (λήκων), the whetstone (ἀκόννη), the lobster (αστακος), and other picturesque terms used by Greek physicians have given place to *tubercula*, *fossæ* and *sulci* or such new formations as the *fissura antitragohelicina*.

¹ He says that the "*concavitas gutturis*" contains an organ which is unique in the body and may be called the "*lingua*" or "*cataracta gutturis*." The voice cannot be formed unless this *cataract* is closed. We also hold our breath by closing the *cataract*. Here is an evident confusion of the glottis and epiglottis, but the image is clearly that of a sluice-gate, not that of a waterfall; so we may reasonably conclude that he applied it in the same sense to the eye disease. (Constantini Africani Opera, Bas. 1536, II, 64; I, 338 (of the eye)).

In recent times we have produced some strange combinations of the two languages. *Corneitis*, once the special reproach of English ophthalmic surgeons, seems to have gone out of use, but *panniculitis*, *parumbilical*, and stranger terms such as *acidosis* and *adeno-fibroma*, have replaced it, and the general outcome has been the production of a medical nomenclature which uncharitable laymen may and do call "a barbarous artificial jargon." Perhaps the best sample is "*conjunctivitis*." Galen, and other Greeks, call the superficial coat of the eye the *epipephychos chiton* (ἐπιπεφυκὸς χιτὼν) the *tunica adnata* or *conjuncta* of the Latins. Translators from Arabic writers used the terms "*tunica consolidans*" and "*conjunctiva*," the latter being borrowed from late Latin grammarians. This half-barbarous word was then made quite so by adding the Greek termination *-itis*, which seems likely to be permanent though attempts have been made to substitute "*syndesmitis*" as the legitimate Greek form.

The ancient Greek medical terminology is the reverse of all this. It is native and not foreign, natural and not artificial. Its terms are real words taken from the spoken or written language, though sometimes slightly altered in sense and applied metaphorically. They may be compared with our expressions *stool*, *appendix*, *tapping*, *white swelling*, rather than with *Logado-blennorrhœa* or *antitragohelicina*. Doubtless there was a tendency, as in all learned professions, to introduce long words and use them in a sense obscure to the vulgar. Galen protests against this, and blames Archigenes for his use of obscure and undefined words; while at the beginning of his famous work on "The Natural Faculties" (recently translated by Dr. Brock) he says: "We for our part are convinced that the chief merit of language is clearness, and we know that nothing detracts from this so much as do unfamiliar terms, accordingly we employ the terms which the bulk of the people are accustomed to use."

Πρόνοια.—To take one or two examples. Hippocrates begins his "Prognostics" by saying, "It appears to me a most excellent thing for a physician to cultivate *pronoia*," and goes on to remark that he will be able by it to tell not only the future, but also the past and present. Here, says Galen, is a word employed in a peculiar way, and he takes much trouble to explain it. It is not used in the philosophic sense as when we ask whether the universe is governed by chance or by *pronoia*, nor in the legal sense as when a jury inquires whether a man was killed unintentionally or by *pronoia*; nor yet in the sense in which Euripides tells us that Polyxena showed

pronoia that her dress should not be disordered when she fell down on being murdered. It does not even mean the same as prognosis in the etymological sense of foreknowledge, for it includes past and present. Both words are used for an inference from previous knowledge and observation of the patient to the whole natural history of his disease, or as a later commentator (Stephen of Athens) puts it, the Hippocratic *pronoia* and *prognosis* mean knowing things about a patient before you are told.

Παράκέντησις.—Take *paracentesis*, a rare word which appears to us strange but which sounded to a Greek like “side-piercing,” and might be used by anybody for making a hole in the side of anything, as, for example, by Theophrastus of an oven or furnace. Similarly, nearly all Greek medical terms could pass from medical to ordinary use and back again, with slight variation of meaning like our terms appendix, tapping, or white swelling.

Stress has been laid upon this contrast between ancient and modern terminology, because it is very necessary to bear it in mind in what is perhaps the most generally interesting discussion involving Greek medical words, the question whether the writer of the third Gospel and the “Acts,” whom we may call Luke, can be shown to be a physician by his frequent use of such terms.

Physicians have taken a minor part in this discussion though it seems to have been begun by them. A French medical writer remarked in 1621 that the Lucan expression “a great fever” is, as Galen says, incorrect medically, since fevers are not classed by their severity. A century later, our own Dr. Freind in his “History of Physic” says that *paralellymenos* (παράλλελλόμενος) as used by Luke is both more medical and better Greek than *paralyticos* (παρλυτικός), and adds a few other words which he attributes partly to Luke’s medical training and partly to his superior knowledge of the language. These words were adopted by the theologians and copied from one another in the usual way till the subject was attacked with great vigour and industry by the Rev. W. K. Hobart, LL.D., who diligently read through the twenty-eight volumes of Kühn’s Hippocrates, Galen, Dioscorides and Aretaeus, comparing them with Luke’s writings (the third Gospel and the Acts). The result was his work on “The Medical Language of St. Luke” (1882) in which he attempted to show that rather more than 400 words, most of them peculiar to Luke among New Testament writers, are of a more or less medical character. This work had a mixed reception, for, while critics were unanimous in declaring that it proved too much, some

of them concluded that it therefore proved nothing, while others held that a selection could be made from the 400 words, clearly demonstrating that the writer was a physician, and that special stress should be laid upon words occurring only in Luke and medical authors. The result of winnowing out these has been curious, as will be shown shortly.

By "proving too much" the critics meant that a vast majority of Hobart's 400 words (more than 390) are to be found in non-medical writings, especially the Septuagint, with which Luke was clearly well acquainted, and that most of them occurred frequently with slightly varied meanings in ordinary Greek literature. But this, as we have seen, is characteristic of Greek medical terms.

Ἀγωνία.—It is curious that two well-known verses (St. Luke xxii, 43, 44) contain four medical terms so varied as to form a sort of epitome of Hobart's list, and that these verses are held by most critics to be a spurious and late addition to the Gospel. They describe the "agony in the garden." The first word *agonia* (*ἀγωνία*) is used medically in both a physical and moral sense, but it occurs frequently in non-medical writers, and the phrase "being in an agony" is more vivid and better Greek than those used by the other evangelists, just as *parallellymenos* is better Greek than *paralyticos*.

Θρόμβοι αἵματος.—The second word "*thromboi*" (*hæmatos*), clots of blood. Here we have a strongly medical term, rarely found elsewhere, but it is used of a liquid and has to be translated "drops," in which sense it occurs in the poet Aeschylus, but never in medical writers, who nearly always emphasize the solid character of a thrombus. It is hard to believe that a medical man would have used it otherwise.

Καταβαίνω.—That these *thromboi* were supposed to be fluid is indicated by the next word *katabainō*. This is only medical in so far as it is often used by medical writers for the flowing down of humours, especially of phlegm from the head. But it is also a very common Greek word with a variety of meanings, and the same may be said of most of those in Hobart's list.

Ἐνισχύω.—The fourth word, however, *enischuō* in an active sense (an angel strengthened Him) is nearly in the first class, for, outside the Septuagint, it occurs only in "*Luke*" and *Hippocrates*.

We thus find a special density (as we may call it) of medical terms in two verses which were probably not written by Luke, and at least as probably not by a physician.

The passage is too short to have much evidential value, but it may have helped to suggest an experiment which has only recently been

carried out, a comparison of the use of medical terms by Luke with that by non-medical writers of Greek origin and about the same period. Dr. Freind had observed that medical terms are so frequently used by the historian Procopius that he might be supposed to have had a medical education. But there is another writer near the evangelist in age, and an Asiatic Greek, as Luke probably was (and as were nearly all extant medical writers) but of widely different character, Lucian the satirist.

Members of the Section are well acquainted with Lucian's interest in medicine. He spent part of his life as a travelling show-lecturer, ready to give a rhetorical exhibition on almost any subject, and he probably made a point of getting up technical terms, as well as acquiring an encyclopædic education. It is therefore not surprising that the American Professor Cadbury, who has recently made a comparison between the medical language of *Luke* and *Lucian*, should have found that the writings of Lucian contain in an equal space a larger proportion of medical terms, especially of words peculiar to himself and medical writers.

To return to terms of this class in Luke. They seem now reduced to three: (1) *psōchō* (ψάχω), rub small (of the disciples rubbing grains of corn on the sabbath), occurs only in Nicander, Dioscorides and Luke. (2) *Synkyria* (κατὰ συγκυρίαν), "by chance" (of the priest in the parable of the Samaritan), is found only in Hippocrates and Luke. (3) *Anoterica* (ἀνωτερικά) is used by medical writers for emetics, but by Luke for the upper or inland parts of the country, and, strange to say, is found nowhere else. Thus this word is used by Luke in a non-medical sense while the other two have nothing specially medical about them, and the same may be said of the two which come next—*euphorēō* (εὐφορέω), be fruitful, of a tree, and *enischuo* (ἐνισχύω), strengthens, which both occur in the Septuagint, as well as in medical writers.

Three other words are of special interest. The ankles of the lame man at the gate of the temple are called *sphudra* (σφνδρά) instead of the ordinary Greek *sphura* (σφυρά)—as though one should say *ankules*. It occurs nowhere else except in the Lexicon of Hesychius, who may have taken it from Luke, and is perhaps from a local dialect. The celebrated theologian, Harnack, lays much stress upon this word, and asserts that it occurs in *Galen*. This is not the case, and so far from helping to prove that the writer was a physician, it is hard to explain how anyone with a medical training came to use such a word.

Διαχειρίζεω.—*Diacheirizein* means to handle a man or matter

thoroughly. It is used by Hippocrates and Galen of medical or surgical treatment, but by historians (including Luke) of putting a man to death. When we discussed the word for the new edition of "Liddell and Scott" it was suggested that this was "a hit at the doctors." And it would be, had the word been originally a medical term which evolved naturally into the sense of murder. But, as it stands, it seems creditable to the profession that "handling a man thoroughly" should mean to them curing, or trying to cure him, while to historians it means killing him. Even so, when the burglar says he will "do for" you, he means murder, while the landlady or housekeeper indicates by the same phrase a motherly care for your comfort. Still, its use in the violent sense by Luke is not what we should expect from a physician.

Katharízeiv.—The same may be said of another word, omitted by the theologians. *Katharízeiv* is used by Hippocrates of the catamenia, and occurs nowhere else except in the Septuagint and New Testament, including the phrase "what God hath cleansed" (Acts x, 15). Now the catamenia were considered by the Jews the reverse of a cleansing, and we might have expected a Greek physician to have avoided the word in a phrase addressed to a Jew.

Thus the attempt to prove that "Luke" was a physician by his use of a few peculiar words seems to have broken down, and even to have left a balance of evidence to the contrary. But, as we have tried to show, the nature of the Greek medical terms makes it impossible to arrive at a definite conclusion in this way. It is an affair of outposts. For the main battle, those who are interested in the subject should read the works of Hobart and of Cadbury, and may conclude that, in spite of the latter's brilliant attack, Hobart's line is still tenable. Lucian was probably as conversant with medical terminology as any average practitioner, and it might be fairer to compare Luke with Plutarch, Philo or Josephus.

Ἀνωτερικός.—What appears to me to be best established is a curious use by Luke of terms almost confined to medical use in a non-medical sense; of which *anotericos* is a good example. This may indicate that the writer was once a physician but had long retired from the practice or study of the art and taken to faith healing.

Some may recollect that the view that Luke was an amateur, not a practising physician, was adopted by a lady scholar who opened the dissertations on medical history at the last International Congress, and also maintained at some length a theory accepted by few, namely, that he was not a Greek but a Roman, connected with the great family

comprising Lucan the poet, Seneca the philosopher, and the no less philosophic Gallio who "cared for none of these things."

Κόρυζα.—This phrase suggests a return to our immediate subject. After all, the Greeks had some words exclusively or almost exclusively medical. Take *coryza*, a term found in classical Greek only in medical authors and Lucian. It is a good word, used frequently by Hippocrates, and seems to fill a want imperfectly supplied by *catarrh*. Yet it has failed to "catch on" either in ancient or modern times. Rufus, perhaps, gives the reason when he says that the Athenians used it not of a disease but of the nasal secretion. They used the verb, and, doubtless, also the noun, though we have no samples of the latter except in Lucian, to denote the folly of youth and the drivel of old age (cf. "snotty" of midshipmen).

Κατασταγμός.—Thus it may have become impolite to tell a person he had *coryza*, and Celsus remarks that, in his time, the Greeks used the term *katastagmos* (a dripping) to denote its most conspicuous symptom, probably more conspicuous than with our modern plenitude of pocket handkerchiefs.

Ἐπισταγμός.—The allied word *epistagmos* appears to have been used for the same symptom, though in the present edition of "Liddell and Scott" it is translated bleeding at the nose (our *epistaxis*). The word occurs twice, once in Dioscorides and once in Galen (quoting Antonius Musa); in both cases it is connected with hoarseness and sore throat. Dioscorides recommends for its treatment a linctus of honey and gum tragacanth, and Antonius Musa a pill containing opium and henbane. We may surely conclude that it means a running cold and not *epistaxis*.

Ἐπίσταξις.—Still, bleeding from the nose was very common in classical times, and Galen says that "hæmorrhage" (*αἱμορραγία*, 17₁ 50, 17₂ 73) used by itself means this form. If anyone looks up *epistaxis* in the indices to Littré's *Hippocrates* and Kühn's *Galen* he will find more than 120 references given under that word. He may spend some profitable hours in verifying them all, but he will not find the word *epistaxis*, which occurs nowhere in classical Greek, except as an obviously false reading in old editions of the Hippocratic *Prorrhetics*, whence we have probably derived it. Nor is this the only medical term which had its origin in a misreading or misprint, for the equally common word *acne* (*ἀκνή*) is almost certainly derived from a misprint for *acmai* (*ἀκμαί*) "points" in the Aldine edition of *Aëtius* (8-13, p. 152, v., 6).

This brings us to some words of doubtful meaning, where any assistance would be welcome.

Κρίσις.—*Crisis* is one of the most common and important of Greek medical terms, yet its meaning is still disputed. An eminent scholar wanted the revisers of Liddell and Scott's *Lexicon* to say that *crisis* in its medical sense means "elimination," and Dr. Brock in his translation of Galen, "On the Natural Faculties," informs us, perhaps against his better judgment, that *crisis* denotes "resolution" or "elimination," as though short for *eccrisis* (ἐκκρίσις). This view seems contrary to all medical tradition, and is usually an impossible rendering of either the noun or verb. Thus the Hippocratic definition of a *crisis* runs as follows: "Diseases have *crises* when they increase or diminish, or change into another disease, or come to an end."

Κρίνεν.—It is obvious that *crisis* and *crinein* have here a sense quite distinct from elimination, and Galen has no doubt what it is. He says: "*Crisis* in diseases is a metaphor taken from the crises (or judgments) in the law courts, and means the rapid change of an illness in one of four ways: the patient recovers or gets much better, or he dies or gets much worse. But only the first two are called crises simply, the others having the epithet 'bad.'" Stephanus, of Athens, puts it in a dramatic form: "What is a crisis? A rapid change in a disease. Why is it called crisis? By metaphor from those who are tried in the law courts, for as men are there judged for life or death, so one who comes in and sees a patient in sore distress, says: 'Mercy (Eleison)' here is a man being tried for his life or death."

Νυκτάλωψ.—A more controversial term is *nyctalōps*. The Hippocratic author of "Prorrhethics," 2, says that *nyctalopes* are persons so affected that they see better by night. They are mostly children or young persons, and the affection passes off in time, though it may last a year. It occurred frequently during an epidemic of catarrhal fever at Perinthus, especially in young children. It is usually preceded by headache and accompanied by a wateriness of the eyes. We should conclude from this that what is meant is the *photophobia* so common in children in cases of conjunctivitis or the like; the more so since this symptom is not described as *photophobia* by Greek writers. But Galen asserts positively, both in his writings and in his Hippocratic *Lexicon*, that *nyctalopes* are persons who are blind (*alaoi*) at night; and all succeeding Greek writers follow his view, though they seem to have doubts about the word. But there are two treatises, published among Galen's writings, though obviously not by him—the "Medical Defini-

tions" and the "Introduction to Medicine"—both of which give day blindness as the meaning of *nyctalops*; though the latter adds that it may also be used for night blindness. Later writers, though they follow Galen, invariably speak of the word as the so-called *nyctalops* or *nyctalopiasis*; while Palladius derives the latter half from *alopēx* (ἀλώπηξ), a fox, and says that while the fox sees better by night, it is applied in the opposite sense to man.

At the time of the Renaissance, the Hippocratic meaning *day blindness* was revived, and has maintained itself by the side of the opposite Galenic one. As late as 1887 an eminent physician was rebuked in the medical press for using "nyctalopic" in its Hippocratic sense; and about the same time Dr. Greenhill tried to get rid of the difficulty by inserting a "not" in the chief Hippocratic passage on the plea that οὐκ had apparently been inserted and afterwards scratched out in one manuscript. But the weight of evidence, both textual and medical, is that Hippocrates meant by *nyctalops* our day blindness or *photophobia*, and there is no doubt that the word must have been used in that sense before Galen's time. No doubt the best solution for practical purposes is the one suggested by the Royal College of Physicians in its "Nomenclature," namely, to get rid of this ambiguous word altogether and substitute plain English "functional night blindness."

Galen's views were not always accepted, and an example of this may be found in another term connected with the eye. The iris was called by Aristotle "the black" (τὸ μέλαν) of the eye and the word was used in this sense till after Galen's time; but before his birth, Rufus of Ephesus had used the word *iris* in our sense, because it is like a rainbow and differs in colour in different persons, which seems a curious reason. Galen ignores this, and says that if you carefully make a section of the eye through the ring or *stephanē* (στεφάνη) between the cornea and sclerotic (our ciliary region) you will see six or even seven concentric curves differing in colour and consistency which one can hardly help comparing to a rainbow or *iris*. For him the iris of Rufus and our nomenclature formed part of the choroid or rhagoid coat which was compared to a grape skin (rhax, ρᾶξ, uvea) because it is smooth outside and rough within, also from its general shape, and perhaps because the pupil resembles the hole formed by pulling out the stalk.

The Germans have long found fault with the French and ourselves for speaking of a choroid membrane and plexus. They say it is a barbarism and could only mean "like a chorus," which is absurd. For them the only correct term is *chorioid*. In this they are supported

by Liddell and Scott's "Lexicon," a work originally taken from the German, and still showing traces of its origin. So far it has persistently declared that *choroeides* (χοροειδής, and therefore choroid) is a corrupt word based on false readings, and it ignores altogether the form *chōroeides* (χωροειδής) with a long first "o." Both words, however, appear to be good Greek, that is, they were used by eminent writers well acquainted with their mother tongue (Galen [probably], Theophilus, Stephanus) though doubtless weak in etymology, as were most of the ancients. Chorion, we now know, is connected with the Latin corium and even with our "skin," and *chorioid* is the more correct derivative. But later Greek writers connect the word with *chorus* "because the blood-vessels twist about like the movements of a chorus," and even a *chōra*, "a place," because it is the place in which the foetus is developed; and, doubtless following the example of earlier writers, they use both the above forms. We may therefore, as no doubt we shall, continue to speak of chōroid or even chōroid membranes and plexuses without feeling ourselves much more barbarous than the Germans.

Chorion also means a haggis, a dish now peculiar to North Britain and said to contain much confused feeding. This paper is likely to resemble it if continued further, so we may conclude by mentioning that Liddell and Scott's method of translating medical terms according to their composition rather than their context is a source of much unconscious humour. It is difficult to give brief examples but the rendering of *cricōsis* (κρείκωσις) (used only of infibulation) as "a rounding off" is probably due rather to ignorance than knowledge of its meaning.

The Medical School of Malta.¹

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THE University of Malta was founded by the Knights of St. John of Jerusalem. Before the Order of St. John settled in Malta, those who cared to give their children a higher education had to send them to schools in Sicily, for the island was then only the "Città Notabile" of the Sicilian crown.

Thirty years after La Vallette had founded the city which bears his name, the Jesuit fathers, who had already Papal authority for teaching philosophy and theology, offered to build a college and a church in Valletta. Their offer was accepted, and on September 4, 1595, Grand Master Garzes laid the first stone of the building, which was completed in 1602. Twelve Jesuit fathers held public courses of philosophy and theology and trained young men for the priesthood. Degrees of Master of Philosophy and of Doctor of Divinity were conferred on the scholars after a searching examination, as testified by the elaborate diploma given at the time. In 1768, the Jesuits had to leave the island, and their colleges and all their property were, by Papal authority, transferred to the government of the Knights.

The Grand Master of the Order of St. John of Jerusalem (Fra Emmanuele Pinto) undertook to maintain the standard of studies laid by the Jesuits, and in 1769, with the consent of Pope Clement XIV, he founded the present University. The decree, solemnly published on November 22, 1769, begins as follows² :—

"We create from this date a public University of general studies, and grant to the said University, to its Directors, Lecturers, Teachers, and Pupils all the privileges, prerogatives, pre-eminences, graces and honours, which have been granted to other Universities, and it is our will that they should enjoy and use the same as if they were specially expressed therein.

"For the better management of the said college and University we hereby create a dignitary to be known as Protector, whom we shall in due time appoint

¹ At a meeting of the Section, held May 21, 1920.

² "Erectio Collegii et Universitatis studiorum Melitensis" (from the Liber Bullarum No. 253 in the Government Archives).

and who in our stead and under our orders shall have every right of superiority and direction, and we now invest him with the powers to confer the degree of Bachelor, Licentiate, Doctor and Master, conformably with and in pursuance of the laws and usages of other public Universities, on such as shall have pursued their studies during the prescribed period, and shall be of good conduct and shall have acquired a sufficient knowledge in the Faculties in which they seek a degree; and we direct that those who are approved in the various degrees shall enjoy all such pre-eminences, prerogatives, graces and honours as are enjoyed by graduates of other public Universities."

In the Pope's brief concerning the University, no detailed list of subjects to be taught, except theology, was given, but it was stated simply "*aliasque ingenuas et liberas artes et facultates*," and this, as the ambassador of the Grand Master explained in a special letter, in order that the Grand Master could add all the chairs and schools he thought proper. Four Papal briefs were granted in favour of the University, two of October 20, 1769 (*Solleciti non quidem*, and *Sedula Romani Pontificis*), and two of January 26, 1771 (*Dudum nos per alias* and *Maxima utilitatis*). The University flourished considerably under very able teachers, and diplomas of Master of Philosophy and Doctor of Laws and Doctor of Divinity were granted.

The schools of pharmacy and of medicine were later additions to the Malta University, but special licences had formerly been granted under the authority of the Grand Masters of the Order of St. John of Jerusalem to young men trained in the hospitals and on the galleys of the order. The Faculty of Medicine of Malta is the direct outcome of the chivalrous Order of the Knights of St. John. The knights were mainly concerned with the treatment of the sick and wounded, for the order originated in the hospital wards of Jerusalem, where the soldiers who fought for the holy places found a bed to rest their weakened body and pious hands to treat their wounds. The pious monks, to whose care the sick were entrusted, had to treat them and at the same time to defend them from the attacks of the relentless foe, hence the double character of the members of the order as hospitallers and fighting knights. The order flourished, and their feats of arms became famous all the world over, but the care of the sick and wounded remained to the last their chief concern, and the hospital was always cared for more than any of the famous *auberges* of the seven languages.

The motto of the order might have been taken from what Grand Master Lastic said in 1445: "*Quæcunque nostra possidet religiosa*

congregatio, non nostra, sed pauperum sunt, debilium ac infirmorum." The chief of the order was originally called the Grand Hospitaller, and when the title of the supreme ruler was changed into that of Grand Master, the chief dignity of the order remained that of the Grand Hospitaller, the Prior of the French Language.

The Holy Infirmary (*Sacra Infermeria*), as the main hospital was always designated, had special privileges, and when an inquisitor was appointed by the Holy See in Malta he was not allowed to have any jurisdiction over the hospital, although, at the time of Grand Master Perellos, this high dignitary of the Church was so powerful in the island as even to claim the privilege of stopping the Grand Master's coach to enable his own to cross the road. The French knights were so jealous of the privilege of being in charge of the hospital that no knight was allowed to enter without depositing the emblems of his dignity at the gate. Even the Grand Marshal of the order had to forgo his *bâton* of commandant when paying an official visit to the infirmary. Vertot relates¹ that some officials of the inquisitor once entered the hospital without permission and the Knight d'Avernes de Bocage, who was in charge, on being informed of the intrusion, had the officials turned out in a most unceremonious manner.

In the year 1777 there were employed in the great hospital of 745 beds six physicians and four assistants, six surgeons and six assistants, one apothecary and five assistants. As the medical staff of the great hospital and that of the fleet of galleys of the order had to be kept constantly at full strength, students were admitted, and, after a considerable number of years' training, they were granted a warrant to practise medicine and surgery.

Before the order established itself in Malta the Maltese obtained medical diplomas at Catania or Palermo. We find that in 1401 a Leone Maltese studied medicine at Catania, and was afterwards appointed physician to King Martin of Sicily. A Simeone Maltese practised in 1413, a Benedetto da Malta obtained a diploma at Palermo in 1445, and a Lia Sabat Maltese a diploma at Catania in 1484. We find noted that in 1539, nine years after the order had fixed their abode in Malta, the "Universita," or Municipality, paid twenty dollars (oncie) a year to two physicians and one dollar to a barber surgeon for blood letting (*per sangar los malos*).

It was in 1674 that special attention was paid to the medical studies

¹ Vertot, "Histoire de l'Ordre de Malte," liv. xiv, p. 226.

in the "Sacra Infermeria." The Grand Master Fra Nicholas Cotoner founded a school of botany, anatomy, medicine, and surgery, and entrusted its direction to a Doctor Giuseppe Zammit, who had instituted a botanical garden in a ditch of Fort St. Elmo, not far from the hospital of the order. The courses followed were both theoretical and practical, but dissection of the dead body was not allowed under Grand Master Cotoner. It was the next chief of the order, Fra Marc Antonio Zondadari, who directed that to help the study of anatomy post-mortem examinations should be undertaken in the hospital of the order. As the dissection of the human body was regarded askance by most of the people of the time, the order directed that the bodies of all professed knights, including the Knights Grand Cross, and of all those who died in a hospital, should be dissected by the master of anatomy.¹

As there was nobody in the island qualified to teach practical dissection, the council of the order selected the young surgeon Gabriele Henin to proceed to Florence at their expense to study anatomy at the Royal Hospital of Santa Maria Nuova. On his return to Malta Henin was appointed, by Grand Master Manoel de Vilhena, a public teacher in the hospital, where he lectured and gave practical demonstrations in human anatomy. In 1723 Henin gave lectures in Italian in anatomy, physiology and pathology, and acted as surgeon in the hospital.

A decree of the treasury² shows the rate at which surgeons were remunerated in these days:—

"In order to ensure," the decree says, "that the knowledge acquired in Florence by the surgeon Gabriele Henin, at the expense of the order, be used on behalf of the patients in our holy infirmary, we grant him a monthly salary of twelve scudi (one pound sterling) with the understanding that he will teach the young students practical anatomy and lithotomy and will do whatever may be assigned to him by the chief of the hospital and the other medical men in the service of the patients in the holy infirmary."

The young surgeon was granted later on ten scudi (about seventeen shillings) for every operation of lithotomy, and later he had an allowance of five scudi for every operation of cataract; in this case, however, it was expressly stated that the payment was to be made only if the operation was successful.³

¹ Professor Carlo Fedeli, "L'ordine di Malta e le Scienze Mediche," Pisa, 1913.

² "Libro decreti delle Vende Camra del Tesoro" *Archivio*, Vol. 648, fol. 345.

³ *Ibid.*, Vol. 649, fol. 173.

In 1740, the Maltese surgeon, Michel Angiolo Magri, one of the pupils of Henin, became a famous dissector in the Royal Hospital of Santa Maria Maggiore in Florence, where his angiological preparations in coloured wax were as much admired as those of the famous Ruysch. In 1748, Magri was appointed first Master of Anatomy in the Hospital of Messina.

At the death of Henin, the Maltese surgeon Enrico Maggi succeeded him as a teacher of anatomy, but owing to ill-health he had to give up teaching after a short time.

In the year 1754, the inquisitor in Malta, Monsignor Gregorio dei Duchi di Salviati, brought with him his private medical attendant, Vincenzo Galli, who during his stay in Malta lectured on anatomy with great success. In 1763 the treasury of the order appointed as anatomist in the Great Hospital the Maltese surgeon Michel Angiolo Grima, who lectured on anatomy and gave public demonstrations on the dead body. In 1765 Grima was sent to France, at the expense of the order, to complete his medical studies. On his return he was entrusted with the post-mortem examination of those who died of obscure diseases. Grima was a very popular lecturer, and in 1781 as a help to his students he published a work on anatomy in two volumes. At this time medical studies were pursued in Malta with great zeal. In 1772 even a young lady was sent to study surgery at Florence at the expense of the order.

The following report to the Grand Master from the Commission of the Treasury, dated April 24, 1766,¹ shows the interest taken in the study of anatomy:—

"We have the honour to report that Anthony Mayer, a Surgeon Major of the Swiss regiment, made a present to the Order of nineteen well-made anatomical models in coloured wax and the model of a human body of the same material. These models will help the study of Anatomy during the hot months when dissection is not possible owing to the dangers ensuing from the operating on the dead body in this climate and at that season. We have therefore sent these models to the Hospital, to be placed in the Library. As we should like to show our gratitude to the said Major Mayer, who refuses to accept any compensation for his good work, we feel in duty bound to ask your Eminence to decorate him with the half cross of our Holy Order and to exempt him from payment of the usual fee. This petition was granted on the 15th March, 1766."

The hospital of the order was kept under a strict discipline, so that the students had the best training that could be given in those days.

¹ *Ibid.*, cclxxii, 1766-1769, tergo.

As early as the year 1682, students were granted a licence to practise medicine after having attended the hospital for at least ten years. The regulations for the good government of the Sacred Hospital of the Sovereign Order of Jerusalem, published in 1714, show the great care taken in the education of medical men.

The chief physicians and the chief surgeons were appointed by the Grand Master, the ordinary practitioners were selected by the Venerable Hospitaller. The practitioners had to show that they had obtained a degree at a recognized university, had attended for two years the Great Hospital of the order and had been examined and approved by the chief physician of the order (*the protomedico*).

The principal medical officer paid a daily visit to the wards accompanied by the barber surgeon (*maestro della fisica*) who was always ready, together with his assistants (*barberotti della fisica*) to apply the remedies ordered by the physician; two pharmacy assistants (*spezialotti*) were also in attendance to prepare the prescriptions. Special regulations for the hospital were drawn up in 1725.¹ A medical man was to be specially employed to give public daily lectures in anatomy and to train students in medical work. A public academy was to be held every Wednesday in which a discussion on current diseases took place.

A barber-surgeon (*barbiere fisico*) was employed to let blood and to apply poultices and blisters. He was helped by two young assistants (*ajutanti per fisica*). The staff of the hospital, at the time, consisted of three principal officers, two practitioners (*pratici*), one lecturer in anatomy, three principal surgeons and lithotomists, two assistant practitioners (*pratici di chirurgia*), six young assistants (*barberotti ajutanti*), one barber-surgeon (*barbiere fisico*), two assistants (*ajutanti per fisica*) and a trained woman for the treatment of skin diseases. There was also a pharmaceutical chemist and five assistants.

More stringent regulations concerning the medical profession were enacted in 1764 under the Grand Mastership of Fra Emm. Pinto. A committee, called collegio, was formed, consisting of three principal medical officers and the chief surgeon of the Great Hospital. This committee was entrusted with the supervision of all medical and sanitary questions.

Article 2 of these regulations runs as follows:—

“No person, either native or foreigner, shall dare to practise Medicine or Surgery without a written licence from the Sanitary Committee (*Collegio di*

¹ “Notizie della Sacra Infermeria,” 1725, p. 6.

Sanita), and those who graduated in a Royal University, or obtained a licence from the late chief medical officer (*protomedico*) or any other chief medical officer, shall not dare to practise Medicine or Surgery before submitting their privileges and their licence to the said Committee and obtaining their approval in writing, under the penalty of five ounces to be applied to our Treasury."¹

The code of laws of Grand Master de Rohan, published in 1784, regulated further the practice of medicine in these islands. Nobody was allowed to practise medicine or surgery without a special warrant from the Grand Master and a licence from the chief medical officer (*protomedico*). The *protomedico* could not grant a licence to practise even to those who were in possession of a privilege or a degree, unless the physician or the surgeon had practised in the hospital of the order, the former for six years, and the surgeons for four years. Those who wished to practise as barber-surgeons had to practise in the hospital of the order for at least two years.² Medical studies continued to be conducted in the Great Hospital of the order and licences to practise medicine granted by the *protomedico*, under the authority of the Grand Master, to the end of the eighteenth century, or better to the end of the order's rule in Malta, brought about by Napoleon Bonaparte in 1798. That the medical school of the Hospital of the Knights of Jerusalem was in no way inferior to similar institutions of the minor states of Europe we have it from contemporary writers and from the works published by Maltese medical men both in Malta and abroad.

The following are the principal contributions to medical and scientific literature :—

- 1603. Mamo, Dr. Gregorio : "Relazione circa lo stato dell'isola di Malta in occasione del morbo pestilenziale."
- 1623. Hasciak, Marc Antonio : "La Grotta di San Paolo."
- 1631. Pace, Marco : "De morbus animi."
- 1638. Imbroll, F. Salvatore : "Specula Melitensis."
- 1689. Bonamico, Gio. Francesco : "Fucus spicatus coccineus Melitensis."
- 1677. Hasciak, Laurentius : "De postrema Melitensi, lue praxis historia," Panormi, 1677.
- 1723. Imbert, Gregorio : "An ægrotantes imaginarii, sola diversitate idearum, rejecto omni remediorum apparatu sanandi sint, 1723."
- 1748. Demarco, Gius. : "Tractatus mechanicus de Non-naturalibus, &c.;" "In lingua latina, ex anglica conversus."

¹ "Bandi e Comandamenti," 1764.

² "Del dritto Municipale di Malta (codice Rohan)," 1784.

1759. Demarco, Gius.: "De Lana, rite in secunda et adversa valetudine adhibenda (Melitae in Palatio)," MSS. 35-39, Public Library, Valletta: unpublished works by the author.
1760. Demarco, Gius.: "Dissertatio de Cocholata, ejus usu et abusu in Medicina (Melitae in Palatio)."
- 1763-1787. Demarco, Gius.: "De philosophiae experimentalis natura"; "Tractatus de morbis pectoris"; "Fasti morborum Melitenses"; "Tractatus de affectuum cutaneorum."
1749. Locano, Dr. Giorgio. "Dissertatio phisiologica de mechanico feminarum tributo." (Montpellier.)
1774. Locano, Dr. Giorgio: "De Imperio Musculorum." "De Imperio gangliorum," and over 154 papers on scientific subjects.
1791. "Tentamen medico-anatomicum de novo spinalis medullae ductu (Melitae in Palatio)."
1748. Henin, Dr. Gabriele: "Observatio chirurgico-anatomica in Nosocomio S. Joannis Hyerosolymitani." Anno 1748 collecta.
1749. Bernard, Dr. Salvatore: "Trattato filosofico-medico dell'uomo e sue principali operazioni" (in Catania stamperia del Dott. Bisagni, vol. 1 in 8, p. 111).
1762. Cren Fort, Antonio: "Tractatus physico-medicus de Americana Lue."
1756. Grima, Dr. Michel Angiolo:—
 "De cranii repercussione" (sent to the Royal Academy of Paris).
 "On the Injuries of the Spleen" (read in the Academy of Florence in 1756; printed in 1760).
 "On Popliteal Aneurism, 1773" (printed in London).
 "Istituzioni d'Anatomia," Venezia, 1781 (a manual for his pupils at the hospital of the order).
 "Della Medicina traumatica e vulneraria" (Florence, 1773).
 "Del nuovo e sicuro metodo di cucire gli intestini" (Paris, 1760).
 "Della sensibilita dei tendini" (translated in Paris, 1760).
1797. Barth, Giuseppe. "La estrazione della cataratta, per lo operatore esercitate" (Vienna, 1797).

The Malta University was abolished by a decree of Napoleon on June 18, 1798, and replaced by a central school with seven professors to teach mechanics, mathematics, astronomy, navigation, physics, chemistry and Oriental languages.

When Malta passed under the British rule, Sir Alexander Ball, the first British Commissioner, reinstated the University, and on October 28, 1800, appointed Canon Saverio Caruana, one of the popular leaders of the Maltese in their rising against the French, director of public instruction in these islands. The letter of appointment was practically a

new charter of our educational establishments. In 1802, Sir Charles Cameron, who succeeded Ball as Royal Commissioner, instructed the rector to confer the usual degrees on the graduates of the University. A general council of the University was constituted with forty members, ten of whom represented the Faculty of Medicine or Collegium Medicum. A medical licence, signed by the members of the medical committee, was granted under the authority of the Governor. Later on, the form of the licence was modified, and it was granted to candidates at the end of their courses of studies. The licentiate underwent a final examination, and was granted the diploma of doctor of medicine, signed by the rector and the secretary of the University. A few years later, the granting of the licence was discontinued, and the diploma of doctor of medicine was granted after the final examination. The reading of the diploma was also changed.

A Royal Commission, sent to Malta in 1834 to report on the affairs of the island in general, suggested important modifications in the University curricula. The course of studies was divided into four faculties—viz., that of philosophy and arts, medicine, jurisprudence and theology, each with a special council, but all under the direction of a general council presided over by the rector of the University.

In 1879, Sir Patrick Jakeman (?), a resident commissioner of national education in Ireland, was sent to Malta to inquire into the educational system of Malta. An exhaustive report was drawn up on all branches of education. As regards the University, he insisted on a reorganization of the arts faculty and a matriculation examination. The statute drawn in 1881 on his recommendation, though altered as to minor details in 1898, 1906 and 1915, remains in force to the present day. The curriculum of the medical school has been brought up to the standard of other universities, and the medical degree of the Malta University is registrable with the General Council of Medical Education in England.

The greatest distinction of the medical school of Malta is its direct connexion with the famous order of the Knights of Jerusalem. When Peter the Hermit gathered the Christian knights for the deliverance of the holy city, Gerard, the rector of the modest hospital of St. John, was the first to help the Crusaders in their need. The rich knights soon vied with each other to endow the house of St. John, and the pious fraternity became soon a rich and popular association.

The brotherhood, armed by Du Puis to defend the holy places and the hospital, flourished in Jerusalem, and kept the standard of

Christendom flowing in Cyprus and in Rhodes under the greatest adversities. It was in Malta, however, that the Knights-Hospitallers became the chief bulwark of Christendom, and developed the hospital as the finest institution of their time. It was in Malta that the hospital gave rise to a medical school, and it was left to Maltese students to keep alive the traditions of the knights in the relief of distress.

The last war has revived the old spirit, and Malta was offered the opportunity of playing the part of nurse of the Mediterranean, as the holy Gerard nursed the Crusaders of the eleventh century, in their attempt to reconquer the holy city of Jerusalem.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(Vol. XIII, No. 1, NOVEMBER, 1919).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—Ed.]

THE NERVOUS HEART: ITS NATURE, CAUSATION, PROGNOSIS AND TREATMENT. By R. M. WILSON, Captain R.A.M.C., and JOHN H. CARROLL, Major, M.C., U.S.A. Pp. vii + 136. Price 6s. net. London: Henry Frowde, Hodder and Stoughton, 1919.

"This book is an attempt to view the problems of heart disease, and especially functional heart disease, from a new angle—that of the nervous system." Thus the authors define the object of their book, but at first sight one does not consider that the neurogenic aspect of heart disease is exactly new. What they have set out to describe is the action and reaction of the vagus depressor system and of the sympathetic system in the production of circulatory control and circulatory disturbance. "Life is an expression of the interrelation of pressor and depressor activities, of sympathetic and vagus depressor activities." Dealing with functional diseases they find that at least 30 per cent. of all cases of irritable heart in soldiers are due to the infection of trench fever, the remaining percentages being distributed among diseases of which "rheumatism" and dysentery are probably the most important. It is, therefore, suggested that in these diseases a toxin of unknown nature acts upon the vagus depressor mechanism, increasing its irritability. The reader will find numerous tracings of the pulse and respiration curves to illustrate the authors' theories, but he will have to learn a new terminology and new views on the mechanism of the circulation before he can grasp the various vagal and sympathetic reactions. Breathlessness, giddiness, præcordial pain, and vasomotor phenomena are dealt with in the light of these reactions. As regards the treatment of functional heart disease the first thing to do, when possible, is to remove the underlying infection. Palliative treatment consists in lowering the irritability of the vagus depressor system, or increasing the resources of the sympathetic system.

CONSTIPATION AND ALLIED INTESTINAL DISORDERS. By ARTHUR F. HURST, M.A., M.D. Oxon., F.R.C.P. Second edition. With 56 illustrations; pp. xx + 440. Price 16s. net. London: Henry Frowde, Hodder and Stoughton, 1919.

The first edition of Dr. Hurst's work was published in 1909. Since then the author has found it necessary, as a consequence of his extensive radiographic studies of the alimentary canal and of his association with surgeons in a field hitherto restricted to the physician, to modify his views so substantially that the present production is a new work rather than second edition. The scope of the present monograph is remarkably comprehensive—429

pages devoted to a subject which the standard text-books on medicine dismiss in three or four. The author explains that although the book is founded on his own investigations, it epitomizes a thorough study of all the literature that has ever appeared. Indeed, opinions and statements of nearly 350 authorities are actually quoted, and this, we understand, does not comprise the entire number consulted. Dr. Hurst defines constipation as a condition in which none of the residue of a meal taken eight hours after defaecation is excreted within forty hours, a definition which embraces all clinical varieties. For practical purposes an individual may be considered to be constipated if his bowels are not open, at least, once in forty-eight hours. Three main varieties of constipation are defined. Colic constipation or delay in the colon; dyschezia; and a third class due to deficiency of faeces. The group defined as dyschezia is conveniently separated from the first-named as designating a normal passage through the colon but with inadequate final evacuation when the pelvic colon has been reached. This term was originally employed by Robert Barnes to denote painful defaecation, but for the word in its present connexion, Dr. Hurst, as is well known, was originally responsible although he ascribes to Chevalier the credit of having recognized in 1819 the form of constipation in which purgatives did no good but for which enemata were necessary. Colic constipation is described as due to deficient motor activity of the intestines and to conditions which necessitate an excessive force to carry the faeces to the pelvic colon. Deficient motor activity is due as a rule to a constitutional weakness of the intestinal musculature but certain diseases contribute to such a weakness, in particular chlorosis and the acute specific fevers. It may also be due to diminished reflex activity either from an insufficient stimulus or deficient excitability of the intestinal mucous membrane or to general nervous depression as in hypochondriasis. Finally, it may be due to inhibition of motor activity from a central cause, a reflex cause—e.g., visceral pain, or because the sympathetic (the inhibitory nerve to the viscera) is stimulated, as in lead poisoning. A fourth group of cases comprised under the consideration of deficient motor activity is constituted by enterospasm, or, as it is more generally known, spastic constipation. The second large group of causes of colic constipation are referable to obstruction either from peculiarity of the faeces or from narrowing of the intestinal lumen with, as would be expected, the consideration of a large number of conditions often demanding surgical treatment. In this connexion Dr. Hurst objects that a true ileal kink, if it ever really leads to ileal stasis, probably does so not directly but indirectly by causing absence of relaxation of the ileo-caecal sphincter (achalasia) just as gastric adhesions may upset the pyloric mechanism. Turning to dyschezia, Dr. Hurst reiterates the utility of employing purgatives since activity of the intestines is in uncomplicated cases normal. The chief causes of this variety of constipation are first, inefficient defaecation as from habitual disregard of the call to empty the bowels, weakness of the voluntary muscles of defaecation, unfavourable posture in the process of defaecation, and weakness of the reflex. As a second group of causes of dyschezia the various conditions leading to obstruction are again under consideration (as in colic constipation); in this instance, of course, the rectum and the pelvi-rectal flexure are the parts of the bowel concerned. Gynaecological causes play a very important part in the production of dyschezia, by their influences upon the pelvic portion of the alimentary canal, and even enlarged prostate must not be forgotten. The third class of cases of constipation is a small one, in which the condition is ascribed to deficiency of faeces. These cases include those in which insufficient food residues reach the colon—generally because insufficient food is for some reason ingested—and those in which the peculiarity of excessive digestion and absorption occurs, the condition originally described by Goodhart in 1902 as “greedy colon.” Dr. Hurst destroys the popular fallacy that bismuth salts can cause constipation, this idea having evidently arisen from the astringent effect of bismuth in certain forms of diarrhoea only, namely, those in which there is excess of sulphuretted hydrogen from abnormal putrefaction. The symptoms of constipation are next considered. These are due either to reflex causes or to the mechanical pressure exerted by faecal accumulation. Intestinal intoxication Hurst considers to be due to abnormally long retention of faeces rather than to any increase in bacterial decomposition. The author points out that the results of constipation as given by Sir Arbutnot Lane include almost every disease from cancer of the breast and exophthalmic goitre to adenoids and flat-feet. He reviews the work of Lane and his assistants at con-

siderable length, and many of their results he considers to be due to imperfect radiographic technique. The association of constipation with hyperchlorhydria deserves a passing word, for there appears to have been a tendency to confuse cause and effect. Dr. Hurst considers that the excess of HCl softens cellulose and renders it more susceptible to bacterial solution so that vegetable foods are abnormally digested. Thus, in his view, constipation is not a cause of duodenal ulcer but the result of hyperacidity associated with the ulcer. Again, constipation he regards as the result of chlorosis, and not (as is traditional) its cause, although the absorption of toxins greatly aggravates many of the symptoms in chlorosis. Approximately the last hundred pages are devoted to treatment; the most suitable foodstuffs are first considered and then the indications for purgatives with the special properties of each. Surgical treatment receives a critical survey. Apart from definite organic obstruction of the intestine for which surgery is unquestionably indicated, the author is clearly unenthusiastic in his reception of the various operations which have during the last ten years been recommended for the relief of constipation. With more persistent and scientifically adjusted medical treatment and greater accuracy in diagnosis to aid in the selection of the operation suitable to the particular condition found, the number of such operations and their mortality percentage would be reduced while the number of successes would be increased. A final chapter deals with constipation in infants in which the author acknowledges his association with Dr. H. C. Cameron.

SPAS AND HEALTH RESORTS OF THE BRITISH ISLES: THEIR MINERAL WATERS, CLIMATE, AND THE TREATMENT TO BE OBTAINED. With a Section on Curative Institutions. By THOMAS DAVY LUKE, M.D., F.R.C.S. Edin. With 32 full-page illustrations and a sketch map; pp. xii + 318. Price 7s. 6d. net. London: A. and C. Black, Ltd., 1919.

This consists mainly of information gleaned about the various spas, climatic resorts, and marine stations of the British Isles. As a dictionary of reference it should be useful to medical practitioners, for it contains in a convenient and accessible form most details which might be asked for at the present day by patients who formerly visited German health resorts. It is impossible to compile a work of this kind without some inaccuracies—as the author himself points out in the preface. Too much reliance must not be placed upon the sunshine records claimed by some of the resorts. There are a few short chapters at the commencement of the book referring to spa treatment, special diet cures, climate, &c., which, although of a sketchy character, are of interest. A list of hydropathic institutions and sanatoria is given at the end of the book. The illustrations are good, but are not in every instance in apposition with the descriptions of the places.

TRENCH FEVER: A LOUSE-BORNE DISEASE. By Major W. BYAM, R.A.M.C., Captains J. H. CARROLL, U.S.R., J. H. CHURCHILL, R.A.M.C.(T.), LYN DIMOND, R.A.M.C., V. E. SORAPURE, R.A.M.C., R. M. WILSON, R.A.M.C. and LL. LLOYD, R.A.M.C.(T.). With an Introduction by Lieutenant-General Sir T. H. GOODWIN, K.C.B., a Foreword by Major-General Sir DAVID BRUCE, K.C.B., F.R.S., and a Summary of the Report of the American Trench Fever Commission by Lieutenant R. H. VERCOE, R.A.M.C. With charts; pp. xvi + 196. Price 10s. 6d. net. London: Henry Frowde, Hodder and Stoughton, 1919.

This book is a record of the experiments carried out by the authors, at Hampstead, for the War Office Trench Fever Committee, and of their conclusions following on the results of these experiments. The first chapter deals with the manifestations of the acute disease and the symptoms are detailed in the order of frequency as found to occur in 200 consecutive cases. Five different types of fever are described as occurring in the experimentally infected cases. The next chapter records the experiments dealing with the mode of transmission. As a result of these investigations they state "we are of opinion that trench fever is conveyed by the excreta of infected lice; that the excreta may enter through the broken skin; that rubbing and scratching promote infection, but that the bites of lice may possibly cause a sufficient lesion to enable the virus to enter the body." This is a most important finding

and is in accord with the findings of the Commission of the American Red Cross Research Committee on Trench Fever. It gives us the key of the problem of how best to attack this disease. We know its disabling results in war but have yet to learn its potency for ill-health in peace. The pathology, the question of immunity, and the disease in its chronic form are all dealt with. Prophylaxis, always of first importance, but more especially so in this case, where as yet no specific treatment has been discovered, is discussed at length, and the findings of many experiments recorded. There are four appendices; three being tabulations of the experiments, and the last a Summary of the Report of the Commission of the American Red Cross Research Committee on Trench Fever by Lieutenant R. H. Vercoe, R.A.M.C., which is most useful, when read in conjunction with the findings of the authors. The book will be of value to all interested in this disease and the interest will be enhanced in that the knowledge it contains will be fresh to the majority of its readers.

A WOMAN DOCTOR: MARY MURDOCH OF HULL. By HOPE MALLESON, B.A. With a Preface by L. B. ALDRICH-BLAKE, M.S., M.D.Lond. With four portrait illustrations; pp. xiii + 231. Price 7s. 6d. net. London: Sidgwick and Jackson, Ltd., 1919.

This is a sympathetic life of Dr. Mary Murdoch of Hull (1864-1916) who was Scottish by descent on both sides, and, in the words of her biographer, had "the imagination, the high mental energy, the quickness of wit and interest in ideas characteristic of the race which is popularly called Celtic." Her father was described by his daughter as "one of God's saints, which is rare in a lawyer; and his Latin and scholarship were a by-word in the North of Scotland forty or fifty years ago." She began her medical work in 1888 in London, and after qualifying in 1892, held some resident and other appointments before settling down for her life's work in Hull in 1896. During the next twenty years she led a busy and unselfish life as a successful practitioner and a willing helper in many public and private schemes concerned with the welfare of women and children. One of the secrets of her success was her splendid personality; the poorer people called her "our Lady Murdoch"; wherever she went affection and gratitude went with her, and she had the capacity of always appearing to have plenty of time. Her superabounding energy had to contend with the handicap of gastric ulcer, and of one occasion, when she was pulseless and kept under morphine for some days, she wrote: "My own death was quite sudden and only lasted a few hours at the most. Three other times I have been at the border, but only over it once, and just held back by the skirt." She played a prominent part in public life, not only in Hull but in connexion with Woman's Suffrage and the National Union of Women Workers, and spoke and wrote much on public health matters. There are two appendices containing obituary notices and her lectures and addresses, the first of which is the October Address to the London School of Medicine for Women in 1904, and a short preface by Dr. Louisa Aldrich-Blake.

BARBED-WIRE DISEASE: A PSYCHOLOGICAL STUDY OF THE PRISONERS OF WAR. By A. L. VISCHER, M.D.Basle, M.R.C.S.Eng. Translated from the German, with Additions by the Author. With an Introductory Chapter by S. A. KINNIER WILSON, M.A., B.Sc., M.D.Ed., F.R.C.P.Lond. Pp. 84. Price 3s. 6d. net. London: John Bale, Sons and Danielsson, Ltd., 1919.

An agreement made between Great Britain and Germany in July, 1917, indicates an official recognition of the group of symptoms associated with captivity under the now familiar term "barbed-wire disease." It contains a paragraph to the effect that prisoners of war, who have been at least eighteen months in captivity and who are suffering from barbed-wire disease, shall for the future be recognized as suitable for internment in Switzerland. It is the causation and description of this group of symptoms with which Dr. Vischer is concerned. An extensive introductory chapter by Dr. Kinnier Wilson occupies fully one quarter of the book; it forms an important amplification of the author's views, and fills the gap resulting from his inability to utilize the English literature of life in war prison camps. Dr. Wilson states that, for the purposes of his introduction, he has read every available book of English origin on the subject, and we gather that English writers agree

with the German and French in complaint of the absence of privacy with its resulting irritability. It has long been accepted as a commonplace that people who are inevitably and unavoidably closely associated, get on each other's nerves. Such a circumstance is invariably mentioned by explorers, during long sea voyages, in institutions and monasteries, and even to some extent during ordinary military service. But whilst all of these contribute certain essential circumstances which conduce to the peculiar psycho-neurotic symptom-complex of a prisoner of war, counterbalancing elements which are generally present in the others are entirely lacking in the prisoner. Thus, factors common to all internment, civil or otherwise, such as restrictions, rules, regulations, limited space, monotonous food, and the absence of means for sexual intercourse, are supplemented in the prisoner of war by complete absence of opportunity for privacy, by ignorance of duration of the incarceration, by irregularity of communication from home, and "more than anything else, by the barbed wire winding like a red thread through the mental processes." The chief symptoms which constitute the syndrome are irritability, difficulty in concentrating, restlessness, failure of memory, moodiness, depression and unpleasant dreams, distrust and delusions of persecution. Dr. Vischer is of opinion that "probably very few prisoners who have been over six months in camp are free from the disease and that many will return to their homes with a damaged mentality." This is not in accordance with Dr. Wilson's experience of returned *English* prisoners, and he is disposed to lay much weight upon reaction to surroundings depending on the prisoner's character, temperament, and disposition. To the superior capacity of the Englishman "to make the best of it" and to preserve an invincible spirit in the face of the most appalling circumstances, of physical sufferings and mental torments combined with a sense of humour, must be ascribed the salvation, moral and mental, of many a British soldier.

AUTOBIOGRAPHICAL REMINISCENCES OF SIR HERMANN WEBER. Written privately for the Family. With Annotations and a List of his Medical Writings by his Son FREDERICK PARKES WEBER. With 21 illustrations; pp. xlii + 124. London: John Bale, Sons and Danielsson, Ltd., 1919.

To his friends—and all those who met the late Sir Hermann David Weber rapidly passed into this category—these memoirs will have a very peculiar attraction as those of an exceptionally lovable character; the only drawback is that they practically stop about 1866. Born on December 29 or more probably 30, 1823, at Holzkirchen, a small village in the north of Bavaria, he characteristically chose his profession on account of the effect of the visits of Dr. Wiegand, of Fulda, on his mother when ill of bronchitis, and the desire to give similar help to others. He worked first at Marburg on the preliminary subjects under Bunsen, Fick, and Carl Ludwig, and later at Bonn under his uncle, Friedrich Nasse, whose name is perpetuated in Nasse's law, to the effect that hæmophilia is propagated entirely by unaffected females. After holding the post of first assistant in the medical clinic for two years he came in 1851 to London as Resident Medical Officer to the German Hospital, Dalston, and soon afterwards became a member of the select "Medical Society of Observation," thus beginning his extensive friendships with the leading members of the profession in London. In 1853 he was appointed physician to the German Hospital, married in the following year, and became a naturalized British subject in 1866. Although the reminiscences do not go further than 1866, there is a special chapter on some medical friends the contents of which, incidentally, refer to events of a much later date. Among the numerous interesting points in these thumb sketches of his friends special attention may be directed to Sir Hermann's opinion that Addison had a considerable share in Bright's description of renal disease, and that Bright, in contrast to his colleagues Addison and Gull, rarely expressed a decided opinion and generally hesitated in difficult cases. There is a great charm about this simple frank narrative, and though it may be difficult for those who knew the late Sir Hermann Weber to form an unbiased opinion on the question whether or not the publication should be confined to a comparatively narrow circle, there does not appear to be any reason why the larger public should not have the pleasure of reading the autobiography of one who was for so long such a prominent figure in the medical life of London. The illustrations are

well done and Dr. Parkes Weber has added a number of footnotes giving details, resembling those in the epitome of the Dictionary of National Biography, of the various persons mentioned in the text.

MEDICAL RESEARCH AND HUMAN WELFARE: A RECORD OF PERSONAL EXPERIENCES AND OBSERVATIONS DURING A PROFESSIONAL LIFE OF FIFTY-SEVEN YEARS. By W. W. KEEN, M.D., LL.D. The Colver Lectures, 1917. With portrait and 6 plates; pp. xi + 160. Price \$1.25. London: Skeffington and Son, Ltd., 1919.

This pleasantly written volume contains the second Colver Lecture at the Brown University which Professor Keen entered at the age of 18, in 1855, and two photographs of the lecturer, in uniform, taken in 1917 and in 1861 when he took part in the old horribly fatal surgery of the Civil War and cannot remember that he ever saw a wound that was not infected. The present state of surgery and of medical practice is contrasted throughout with the conditions existing when the lecturer first entered the profession, and the improvement due to medical research is pointed out with statistics to emphasize the moral that a small outlay on scientific investigation insures an enormous economy both in human life and pecuniary expenditure. Carrel, who, in what may be called "mathematical surgery," can now predict to a day when a wound will be completely healed with almost the accuracy of an astronomer in predicting an eclipse, is the type of the new surgeon who restricts his actual surgical work so as to carry on researches in bacteriology, physiology, physiological chemistry and physiological physics. Pasteur's epoch-making advances are set out, and the lecturer says that just as Sir Humphry Davy, when asked what was his greatest discovery, instantly replied "Michael Faraday," so might Pasteur in similar circumstances have answered "Joseph Lister." As an example of the need for medical research reference is made to a fatal case of tetany after thyroidectomy, before the connexion between the parathyroids and tetany was known, and remarks "what a chapter could be written on the calamities of unavoidable ignorance." The lessons of the war and the life-saving influence of medical research among the belligerents are fully noticed.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(VOL. XIII, No. 2, DECEMBER, 1919).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—ED.]

AUTO-EROTIC PHENOMENA IN ADOLESCENCE: AN ANALYTICAL STUDY OF THE PSYCHOLOGY AND PSYCHOPATHOLOGY OF ONANISM. By K. MENZIES. With a Foreword by Dr. ERNEST JONES. Pp. viii. + 96. Price 4s. 6d. net. London: H. K. Lewis and Co., Ltd., 1919.

An introductory chapter explains psycho-analysis as standing in the same relation to the soul that surgery does to the body, and the principle underlying psycho-analysis is given in the words of Dr. Ernest Jones whose writings as well as those of Dr. Havelock Ellis and Freud are frequently quoted throughout. The subject of masturbation is then considered in four chapters devoted to its psychology, pathology, ethical considerations, and treatment. It appears that an anonymous work entitled "Onania, or the Heinous Sin of Self-Pollution," published in the eighteenth century and ascribed to Tissot, first asserted that masturbation gave rise to very serious results; but the opinions of Sir James Paget, Forel, Brill and other authorities are quoted to correct the alarmist statements still made both by some well-intentioned writers and by interested quacks. The author agrees with most modern writers that the principal evil results are psychical and not physical, and are manifested in heightened self-consciousness, oversensitiveness, timidity and exhausting mental conflict. The section on treatment therefore deals with mental rather than physiological means; the individual should be surrounded with an atmosphere of sympathy and encouragement rather than of condemnation, being encouraged to analyse freely and aloud in the presence of his confidant the feelings of distress and remorse that attend on his failing, and the general aim should be the withdrawal of over-emphasis from the habit, to which end it would appear inadvisable and sometimes dangerous to extort the promise of an immediate cessation of the practice, as psycho-analysis has shown that the abrupt breaking of long-continued masturbation may be followed by the appearance of a neurosis.

THE FUTURE OF MEDICINE. By Sir JAMES MACKENZIE, F.R.S., M.D., F.R.C.P., LL.D.Ab. and Ed., F.R.C.P.L.(Hon.). Pp. 288. Price 8s. 6d. net. London: Henry Frowde, Hodder and Stoughton, 1919.

No detailed analysis of the contents of this latest book by Sir James Mackenzie can give a prospective reader an adequate conception of its worth. A book, which is in the main a criticism, will have its own critics without in any way detracting from its value which lies in its power to stimulate thought almost as much as in the facts or figments it may contain. The first section of the book is under the title of "Criticism," and the author opens his

subject with an exposition of the difficulties that beset the path of the investigator in his attempt at the solution of the problems of medicine. He contends that these difficulties have been enhanced rather than lessened by the present trend of medical teaching, and that by want of co-operation between workers in the various fields of research we are tending to lose our way in a maze of blind alleys, with the result that not only the student but more advanced workers find themselves bewildered and aghast at the apparent complexity of the problems confronting them. This apparent complexity is aptly illustrated by the setting out at length on pp. 35-39 of the syllabus recommended by the Professor of Clinical Medicine at Johns Hopkins University. Its perusal leaves one breathless, but with the strong conviction that study along these lines could only end in disaster. Part II. is devoted to the narrative of the author's personal experiences. He relates his early dissatisfaction with the lack of knowledge requisite for the solution of the many problems that confronted him, and shows how the recognition of the causes of this limitation enabled him to succeed in solving some of the problems in that branch of medicine to which he later devoted himself. This success was attained not by elaborate details of technique but by the recognition of principles which could be applied to other branches of medical research equally fruitfully. That laboratory instruments are necessary in the study of certain problems, and aid in their solution, the author readily admits, but pleads that they should be used as aids to, and not as substitutes for, our faculties of sight and touch. In the last section, entitled "Constructive," suggestions as to the methods of training and research which are likely to advance our knowledge are given. The unique position of the general practitioner as an agent for the furthering of medical knowledge is pointed out and stress is laid on the necessity of granting him every assistance at the outset of his career, in order that he may be able to use his opportunities to the full. Unfortunately the present-day tendency seems to be to forget the fact that the human organism is a unit and maintains and expresses itself as such, and the practitioner's activities are being curtailed by those who would divide up the body into the watertight compartments of specialism.

SURGERY OF THE LUNG AND PLEURA. By H. MORRISTON DAVIES, M.A., M.D., M.C.Cantab., F.R.C.S.Eng., Hon. Captain R.A.M.C.(T.) With 2 coloured plates and 79 other illustrations; pp. xxiii + 259. Price 25s. net. London: Shaw and Sons, 1919.

This is a very clear and well illustrated account of the latest surgical methods applied to the treatment of diseases of the lung and pleura. The book is based for the most part on the author's own experience and throughout leaves the impression that he has tried and proved the various procedures and only advises when thoroughly convinced himself. The first three chapters deal with anatomy, the physiology of intrapleural pressures, and some special points in diagnosis and prognosis. One chapter is devoted to diseases of the pleura and another to injuries of the lung and pleura. In Chapter VI a rather sketchy account of bronchoscopy is given. The last seven chapters deal with surgery of the lung under the headings—gangrene and abscess, tuberculosis, bronchiectasis, streptotrichosis, hydatid disease, tumours, and emphysema. So far as we are aware this is the only thoroughly up-to-date book in the English language dealing with lung surgery. The subject has been comparatively neglected and it is largely due to the author's enthusiastic work that lately attention has been focused on this branch of surgery. The author recommends aspiration with oxygen replacement as the first line of treatment in pneumococcal empyema, and later pleurotomy with immediate suture of the wound and oxygen replacement. Temporary drainage is recommended only when fever due to toxic absorption persists. Four different surgical procedures applicable to pulmonary tuberculosis are described—nitrogen displacement, rib mobilization, section of the phrenic nerve, and displacement by foreign bodies. The indications for performing these operations are given, but very few case-records are inserted. The book is well produced, and contains a large number of radiograms illustrating the various conditions. Operations are described but not figured. Both physicians and surgeons will find much in this treatise to stimulate thought and to challenge their acceptance of old-fashioned methods of treatment. The chest has always been regarded as the peculiar province of the physician but this book opens up a new field to the surgeon and should lead the physician to collaborate more often with his surgical colleagues.

WILLIAM HOWARD LISTER. By **WALTER SETON.** With a Foreword by Lieutenant-General Sir IVOR MAXSE, K.C.B., C.V.O., D.S.O. Portrait. Pp. 93. Printed for Private Circulation by Philip Lee Warner, Publisher to the Medici Society, Ltd., London, 1919.

This is a sympathetic record of the short life of Dr. W. H. Lister, D.S.O., M.C., of University College, who, like so many young medical men, gave his life for his country. In his thirty-one years he had many experiences and was remarkable for his enthusiasm and vitality. Early in his student days he was the moving spirit in the protest against the action of the anti-vivisectionists, which underlay the destruction of the bronze statue of the Brown Dog on a drinking fountain close to Latchmere Gardens, Battersea. He was one of the best known undergraduates of his time in the University of London, and spared no pains in schemes for advancing its corporate spirit; thus he was a keen member of the committee and later Vice-President of the Union Society of University College, Assistant Honorary Secretary of the University of London Athletic Union, and did all that was possible to start a University Boat Club. He threw himself into the establishment of University College Hall and energetically interviewed all who were likely to help, as is shown in the following episode: "The idea suddenly occurred to him on April 1, that he would make a personal appeal on behalf of the Hall to Mr. Joseph Storrs Fry, of Bristol, a close friend of his grandfather's. He set out by the next train, and found Mr. Fry, who received him kindly and listened to him patiently. Mr. Fry told him that he had not any money to put into the Hall scheme, whereupon Lister immediately offered to lend him the necessary funds to enable him to apply for shares. Mr. Fry did not accept the offer, but prayed with his visitor, who then departed to Buxton somewhat disappointed!" Another evidence of his intense interest in London University is his evidence before the Royal Commission on University Education in London. In 1912 he went out as a dresser to the Balkan War, and qualifying in the next year saw more of the world as Medical Officer on R.M.S. *Cobequid*, and did heroic service in its wreck. Directly on the outbreak of war he joined the R.A.M.C. and was severely wounded in October, being recommended for the V.C. His record during the war was a marvellous one for gallantry; he was invalided eight times, decorated by the King on three occasions, and was made a Fellow of University College under the clause in the College statutes which provides as one ground for election "distinction in public life." Shortly before his death on August 9, 1918, from a bomb, he wrote "I only pray that I may be able to do my duty without shrinking even if with fear." It is only fitting to add that this memoir is charmingly printed and bound.

THE PRACTITIONER'S MANUAL OF VENEREAL DISEASES, WITH MODERN METHODS OF DIAGNOSIS AND TREATMENT. By A. C. MAGIAN, M.D. With 61 illustrations; pp. viii + 215. Price 10s. 6d. net. London: William Heinemann (Medical Books), Ltd., 1919.

Designed as a practical handbook for the general practitioner this book sets forth in detail the signs, symptoms, and treatment of the three venereal diseases. In the case of gonorrhœa and syphilis, a short summary of the disease is followed by chapters which deal in detail with their various manifestations and their appropriate treatment. The necessary bacteriological and serological examinations are explained with practical instructions. There are copious illustrations, chiefly of instruments and apparatus used. The questions of cure and subsequent marriage are fully dealt with, and at the end of the book are reprinted specimen pamphlets to be given to all persons under treatment for venereal diseases.

THE EXACT DIAGNOSIS OF LATENT CANCER: AN ENQUIRY INTO THE TRUE SIGNIFICANCE OF THE MORPHOLOGICAL CHANGES IN THE BLOOD. By O. C. GRUNER, M.D. With 19 illustrations; pp. vii + 79. Price 7s. 6d. net. London: H. K. Lewis and Co., Ltd., 1919.

The author claims that it is possible to detect the presence of cancer, even if only in its incipient or precancerous stage, by an examination of the blood alone, and to decide whether an operation for the removal of a cancer has or has not been completely successful. He lays

stress upon the investigation of live as well as of dried blood. The usual routine examinations are regarded as far too meagre. Not only colours, numbers, and differential counts are noted, but the consistence, colour, and texture of fresh blood; the consistence, attitude, construction, agglutinability, contour, and types of aggregations of red disks and other refinements, are regarded as of great importance. The suspended matter, fibrin content; the size, shape, construction, contours, motility, agglutinability, and intimate structure of the white cells and of their nuclei; their mode of death, as well as associated changes are all subjected to examination and classification. Interpretations, methods of procedure and of recording are gone into and illustrative cases are given. The thesis is illustrated by 19 figures.

INTERNAL MEDICINE: A WORK FOR THE PRACTISING PHYSICIAN ON DIAGNOSIS AND TREATMENT. By NATHANIEL B. POTTER, M.D., JAMES C. WILSON, M.D., and Professor NORBERT ORTNER. In three volumes, with complete Desk Index in separate volume. With 14 coloured plates and 427 other illustrations; pp. xli + 2333. Price £3 15s. net the four volumes. Philadelphia and London: J. B. Lippincott Co., 1919.

This work, which has now reached its fifth edition, represents a complete treatise on internal medicine in three volumes. It stands, as it were, midway between the elaborate "Systems" of Medicine and the ordinary one volumed text-book, and is suited more to the needs of the practitioner than of the student. The first volume deals with methods of examination and the diagnostic value of symptoms; the second describes diseases systematically in the same way as the usual text-books, whilst the third volume is devoted entirely to therapeutics, which are discussed much more fully than in the ordinary systematic treatise. There is an elaborate index, which has a separate volume to itself. The illustrations in the first and second volumes are numerous and clear, and in the present edition the whole subject-matter has been thoroughly revised and the newer knowledge in medicine and therapeutics incorporated.

THE BREAST: ITS ANOMALIES, ITS DISEASES AND THEIR TREATMENT. By JOHN B. DEEVER, M.D., LL.D., Sc.D., and JOSEPH MCFARLAND, M.D., Sc.D., assisted by J. LEON HERMAN, B.S., M.D. With 8 coloured plates and 277 other illustrations. Price 40s. net. London: William Heinemann (Medical Books), Ltd., 1918.

The whole subject of diseases of the breast needs reconsideration from an original standpoint and in the light of modern scientific knowledge. The old terms must be ruthlessly discarded and a fresh classification adopted, for at the present time there is a superfluity of nomenclature and a maddening system of cross division. Professors Deever and McFarland show that no less than twenty-four different names have been given to cystic disease of the breast and at least fifty-four to mammary cancer. Statistics are useless with such an exuberant nomenclature, whether they deal with the frequency of different forms of disease or with the even more important questions of recurrence and mortality, for no two writers discuss the same conditions under the same heading. Professors Deever and McFarland have not entirely divested themselves of the old hindrances to progress, but they have produced a comprehensive book which is of great service to those interested in the subject and have made the way easy for further advance by means of their excellent bibliographical references. The microscopic and naked eye appearances of the different conditions are carefully described and the descriptions are elucidated by many well executed illustrations, eight of which are coloured. As a second edition is certain to be required it is well to note that greater care is required of the proof reader; thus on pp. 587, 589 axillary is spelt "axiliary"; whilst scirrhus is sometimes spelt "schirrus" and at least once "sirrhus." Fig. 215 on p. 596 serves no useful purpose and should be omitted. It would perhaps be too much to ask that some better synonyms should be found for "periductal," "Bosselation," "matricial," "metastizes," and "prognosing." But the book is so good and useful that verbal errors are venial.

FRACTURED FEMURS: THEIR TREATMENT BY CALLIPER EXTENSION. By MAURICE G. PEARSON, O.B.E., M.B., B.Sc.Lond., F.R.C.S., and J. DRUMMOND, M.D., M.R.C.P. Edin. With 57 illustrations; pp. xii + 92. Price 10s. 6d. net. London: Henry Frowde, Hodder and Stoughton, 1919.

The system described in this book allows of movement of the knee from the beginning of treatment with advantage to the fractured bone and to the wound in the soft parts by methods evolved during the war. In the last nine months of the war there were 5,000 new femur cases in the British Army in France. Many cases were moribund from tetanus, gas-gangrene, &c., when they reached the clearing stations. A whole system of transport and treatment had to be organized. Thomas's splint came into general use, orderlies being trained to put them on in four minutes (fig. 1, p. 10). At the clearing stations prompt and extensive operation came into use early in 1917. Fractures are considered in detail in three anatomical groups—upper, middle and lower thirds. The patient's highest resistance for early operation is rarely later than three hours after his arrival at hospital. In shell and bomb wounds the aim is to excise all damaged tissues, attached fragments of bone being removed, and the length of the limb maintained however much bone had been shot away. Fixation of fragments by a single wire brought out of the wound was used when needed. How to avoid secondary hæmorrhage is discussed. The method of using the Thomas splint is fully given, and the mechanical principles involved are explained. Every point is clearly illustrated: methods of treatment, post-operative treatment and results. The authors found Besley's traction-callipers effective.

THE AMOEBAE LIVING IN MAN: A ZOOLOGICAL MONOGRAPH. By CLIFFORD DOBELL, M.A., F.R.S. With 5 plates; pp. viii + 155. Price 7s. 6d. net. London: Published for the Medical Research Committee by John Bale, Sons and Danielsson, Ltd., 1919.

Although dealing with the subject chiefly from a zoological standpoint, this volume well deserves the attention of medical men, and especially of pathologists who are concerned with the differential diagnosis of amoebic infections. After a short description of the best methods of examination, the author gives a brief historical survey and a general account of the present state of our knowledge. The genera and species of amoebæ are then considered in detail, and in an important synopsis (p. 19) the author recognizes only four genera (which include six species) of amoebæ which can be definitely accepted as occurring in man. They are named in strict accordance with the rules of zoological nomenclature. Of these species the author is of opinion that there is satisfactory evidence of pathogenicity only in the case of *Entamoeba histolytica*. The morphology, occurrence, and effects of treatment on the individual species are then described, a short discussion of "Urinary Amoebiasis" is given, and lastly an account of amoebæ in dogs and monkeys, and of doubtful amoeboid organisms. The bibliography, which has been compiled with great care and a series of excellent coloured plates, are valuable additions to the work of one who is admittedly a leading authority on the subject. A noticeable feature in this publication is the criticism, for the most part adverse, of the work of past and contemporary experimenters.

DEFECTIVE HOUSING AND THE GROWTH OF CHILDREN. By J. LAWSON DICK, M.D., F.R.C.S. Pp. 94. Price 3s. 6d. net. London: George Allen and Unwin, Ltd., 1919.

The author's pen has been guided through this little book by a praiseworthy endeavour to explain the claims of the children of the working classes for the provision by the State of better housing and a more healthy environment. To procure the latter Dr. Lawson Dick points out that there must be work for all at a living wage, with adequate provision against ill-health, unemployment and old age; and a dwelling, at once sanitary and comfortable, preferably in some outlying district, with facilities for fresh air, exercise and sunlight. Passing in review the principal stigmata of rickets, to which disease most of his observations have been directed, he arrives at the conclusion, drawn from his experience and supported by statistics, that while defective housing is the essential, deficient feeding is the contributive factor, and that, whether the food be good or bad, overcrowding and slum conditions, with

the evils they entail, will inevitably produce that disease. As showing the effect of housing upon the incidence of pulmonary tuberculosis, he cites Dr. Maxwell Wilson's striking statistics relating to Edinburgh in 1912: one room, 6.9; two rooms, 5.6; three rooms, 3.5; four rooms and over, 1.4 (per 1,000 inhabitants); and shows that in 1911 one-sixth of the total population of the kingdom lived in houses of less than four rooms, adding as a corollary that "the remedy is not to build sanatoria, but to demolish slums."

APPLIED ANATOMY: THE CONSTRUCTION OF THE HUMAN BODY CONSIDERED IN RELATION TO ITS FUNCTIONS, DISEASES AND INJURIES. By GWILYM G. DAVIS. Fifth edition. With 631 illustrations; pp. x + 630. Price 30s. net. Philadelphia and London: J. B. Lippincott Co., 1918.

The fifth edition of this work contains a few additions to the text and illustrations to bring it up to date. The figures are finely reproduced and in character and number are almost sufficient for a systematic treatise on pure anatomy. The text deals with the applied anatomy of the whole body, being particularly full in relation to all surgical procedures.

THE MEDICAL REPORT OF THE RICE EXPEDITION TO BRAZIL. By W. T. COUNCILMAN and R. A. LAMBERT, M.D. With 35 illustrations; pp. vi + 126. Price 5s. 6d. net. Cambridge, U.S.A.: Harvard University Press; London: Humphrey Milford, 1918.

The expedition, the medical report of which is contained in this little volume, was organized by Dr. A. Hamilton Rice, primarily for geographical research. The main portion is devoted to a description of the general conditions of health in the three chief cities of the Amazon (Pará, Manaus, and Iquitos), and in the small towns and villages on the Rio Negro (a tributary of the Amazon) as far up as San Gabriel. The climatic conditions in the Amazon valley, the character of the land and vegetation on the river banks, and the mode of life of the inhabitants, are also briefly dealt with. It is pointed out that the insect pests, especially the micuims, the pioms, and the Tucandera ants, are the real enemies of man in these regions, owing to their ubiquity, and to their particularly annoying and ferocious nature. So far as can be ascertained, however, none of these transmit disease. The chief cause of the country's lack of development, according to the authors, lies in the prevalence of malaria in chronic form. Mosquitoes are, however, apparently scanty in number, and the statistics as to the frequency of acute malaria in the cities is considered unreliable. After malaria, the two conditions which receive special notice are "splenic enlargement" and "ulcers." Although some of the cases of the former are probably due to malaria and to kala-azar, the authors believe that many of them belong to the obscure condition known as tropical splenomegaly. Ulcers are very common, and their etiological differentiation is in a very elementary state. There is here ample scope for scientific investigation, if more hospital and laboratory accommodation were available. The endemic diseases of the Indians are briefly mentioned, and it is remarked that the native population is on the decrease. A short account is also given of the health of the inhabitants of Barbados and Porto Rico, and suggestions are offered for social and hygienic reforms, which are greatly needed for the proper development of those countries.

HEREDITY. By J. ARTHUR THOMSON, M.A., LL.D. Third edition. With 9 coloured plates and 38 other illustrations; pp. xvi + 627. Price 15s. net. London: John Murray, 1919.

The whole range of this most complex subject is gradually unfolded; its experimental basis considered; the theories advanced in its explanation are stated and criticized. Evolution and nurture play their part in hereditary reproduction but the influence of the development of germ and sperm—discontinuous growth of Haeckel—and the subtle effects of amphimixis are traced. Thus ancestral inheritance, with paternal and maternal influence, is studied. Huxley's prophetic utterance that the produced offspring is an organism comparable to a web knit of maternal warp and paternal woof is investigated and the parts played by the centrosome, the chromosomes and segmentation nucleus are advanced. Inherit-

ance, though dual, is strictly multiple. Variation, an ambiguous term, may be continuous or discontinuous, and the theory that there are modifications in individuals of a type is closely pursued. De Vries' important work and the theory of mutation advance the unfolding of the schema of hereditary changes as we know them. Specific inertia and stability of specific characters, even racial inertia, hold to some extent for mental characteristics. Like need not and does not in all cases produce like, but always tends to do so. There is latent influence, i.e., recessive, and dominance fluctuating according to conditions which the author examines. Galton's and Weismann's views on transmission of acquired characters come under review. That Mendel's teaching, though modified by recent research, throws much light upon inheritance or transmission through dominating ancestors is shown. Thus the offspring is a mosaic of past generations the characters of which are determined by complex interactions. There is a full exposition of the history of the subject, of the work of Darwin, Weismann, Galton, de Vries, Bateson and other investigators; their views are collated, discussed, and summaries of conclusions arrived at are supplied, which render clear the complex problems considered. We find fertilization, theories anent development, germinal selection, determination of sex, thoroughly discussed. In later pages we are shown the relations of biology and sociology and the social significance of heredity. Much that appears in earlier chapters is more fully elaborated; a full bibliography is appended.

ANÆSTHESIA AND THE NURSES' DUTIES. By A. DE PRENDERVILLE, LL.B., M.R.C.S. With an Introduction by Sir JAMES CANTLIE, K.B.E., M.B., F.R.C.S. With illustrations; pp. xii + 100. Price 3s. 6d. net. London: William Heinemann (Medical Books), Ltd., 1919.

The introduction by Sir James Cantlie eulogizes the author of this posthumous book. The writer advances reasons why nurses should be instructed about the administration of anæsthetics, and sets himself the task of teaching the essential duties involved in the efficient carrying out of this procedure. Such whilom means of inducing insensiance to pain as the use of opium and other drugs—e.g., mandragora, alcohol, pressure upon nerves, chilling by ice and salt, and the practice of hypnotism are mentioned. A brief résumé of the history of anæsthesia also finds a place in these pages, which takes us from the days of Humphry Davy to our own. The conditions affecting the patient, whether due to age, sex, disease or brought about by operative measures, are discussed and divided into the categories which are conducive to the production of favourable or unfavourable anæsthesia. Nurses are instructed in the proper preparation for the anæsthetic and the after-care of the patient as he recovers consciousness. Succeeding chapters deal with the phenomena to be noticed during anæsthesia—how to recognize the onset of danger and how to deal with it when it arises; the preparation and cleansing of apparatus; and such special technique as is called for in the case of special branches of surgical procedure.

THE GREAT WAR AND THE R.A.M.C. By Brevet Lieutenant-Colonel F. S. BRERETON, R.A.M.C. With 9 maps, 1 plan, and 2 appendices; pp. xv + 300. Price 14s. net. London: Constable and Co., Ltd., 1919.

This, the first volume of the "Popular Medical History of the War," deals with the military operations from Mons to the Aisne, and the organization of the R.A.M.C. during the opening weeks of the campaign. Colonel Brereton has had access to official documents, and his narrative, prefaced by the Director-General A.M.S., is therefore authoritative. He describes minutely every stage of the Retreat, and the Advance on the Marne, mentioning in detail, with the aid of maps, the various phases as they developed. Although the Army Medical Department had repeatedly and urgently recommended in peace-time the provision of motor ambulance convoys, these were lacking in the critical weeks of August-September, 1914, and the absence of these for the rapid evacuation of casualties, caused the lines of the retreat to be blocked by slowly moving transport. This state of affairs was remedied none too soon, when, by September 20, a fleet of motor ambulances under R.A.M.C. control replaced the lorries, which too often were beds of agony for men gravely wounded. At the

same time the author commends the establishment of casualty clearing stations, which at a later stage were brought to a high degree of efficiency. The writer's historical sense is so strong that one has to read between the lines of his unimpassioned account to realize the appalling conditions under which the R.A.M.C. had to work, and the ordeals to which they were hourly subjected. The book contains in an appendix the Official Report on the typhus epidemic at Wittenberg Camp. The Report calls for the indictment of the infamous Oberstabsarzt Dr. Aschenbach, whose calculated inhumanity to the prisoners in the stricken camp won (?) for him the Iron Cross. Further volumes of this history will be awaited with interest by all arms that took the field in the first months of the war.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(VOL. XIII, No. 4, FEBRUARY, 1920).

NOTES ON BOOKS.

[*The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.*—ED.]

SIR VICTOR HORSLEY: A STUDY OF HIS LIFE AND WORK. By STEPHEN PAGET. With 12 full-page plates and 17 other illustrations; pp. xi + 358. Price 21s. net. London: Constable and Co., Ltd., 1919.

Sir Victor Horsley died in his fifty-ninth year from heat stroke at Amarah in Mesopotamia on July 16, 1917, and in little more than two years Mr. Stephen Paget's study of this great personality has been published; it is written by an obvious friend and admirer who is fully conscious of the responsibilities of his task and is most anxious to avoid the natural bias that is almost inevitable in these circumstances. The difficulties inherent in making a just and lasting estimate of a great man within a short time of his death are always great, and they are particularly so in dealing with such a many-sided man as Sir Victor Horsley, but this is certainly an exceptional biography and as far as can be judged at present a correct perspective has been attained. Lady Horsley, to whom the life is dedicated, in her prefatory note says that it would be hard to find two men more widely apart in their mental attitude than her husband and the writer of his life and that this constantly appears in the critical attitude of the biographer, but that no attempt has been made to suppress or soften it. The volume is divided into three parts, dealing with the first thirty years of his life, the remainder of his career in London, and his activity during the War; the division between the first thirty years and the rest of his life, which is gracefully described as "the summer and autumn of a life which had no winter," is comparatively easy, but the difference of the years 1914-17 is mainly one of place. He was born on April 14, 1857, the same day as Princess Beatrice and at Queen Victoria's desire was named after herself. His father, J. C. Horsley, the well known artist, came of a musical and artistic stock and was restlessly energetic, impulsive and hot tempered, but generous and quick to make amends. Mrs. J. C. Horsley was a sister of Sir Seymour Haden, the first President of the Royal Society of Painter-etchers and himself a surgeon and the son of a surgeon; she was strong-willed and extremely skilful with her hands. Sir Victor spent his boyhood in the country, where riding made him wish to be a cavalry officer but, as this was ruled out by parental considerations of expense, he decided to be a surgeon, not a physician, as "there was plenty of riding, driving and cutting about." He was a day boy at Cranbrook school and though in the sixth form he was not specially distinguished; Mr. Paget says that he ought to have gone to a public school far from home, but this might well have impaired his originality and made him more conventional. Before he was seventeen he went to University College to work for the University of London; he was at this time assertive and disputatious and early

in his student career took up the temperance and anti-tobacco causes, his father as a non-smoker cordially agreed as to the evils of nicotine but was inclined to resent abuse of "God's good gift" of wine, an expression which particularly roused Victor's ire. After a brilliant student's career he qualified in 1880 at the age of twenty-three, having previously made the first of his numerous contributions to *Brain*. As a house surgeon he became attracted to cerebral surgery, and like so many distinguished men was at one time threatened with pulmonary tuberculosis. In 1882 he became surgical registrar and assistant professor of pathology at University College. From 1884 to 1890 he was professor superintendent of the Brown Institution, and there undertook three important lines of research, namely: (1) localization of function in the brain, and the pathology of epilepsy and canine chorea; (2) the thyroid gland, with special reference to myxœdema and cretinism; and (3) the protective treatment against hydrophobia, which are fully described in separate chapters. In 1896 he was elected a fellow of the Royal Society and surgeon to the National Hospital, Queen Square, where a year later he performed successfully the first operation for removal of a tumour from the spinal cord. The stirring events of the successive years are given with explanatory comments and impress the reader with his tireless energy. In 1885 he became assistant surgeon, in 1900 obtained beds, and in 1906 retired from the brilliant staff of University College Hospital, the position of which is compared to Balliol among the colleges at Oxford, and in 1902, to his great astonishment, he was knighted. As the years went on, his interest and participation in professional politics and schemes to improve the welfare of mankind steadily grew. A special chapter is devoted to his fight against alcohol, on which he had first lectured as early as 1882; it is suggested that his lectures on this subject might have been better for more frequent lighter touches, and one of those rare reliefs in which he described our three most British institutions, John Bull, Father Christmas and King Henry VIII, as examples of fatty degeneration due to chronic alcoholism is quoted. Mr. Paget places him on a par with Ambroise Paré, John Hunter, and Lister, but says that he had wider instincts, so that he could not rest in science and practice, but must also be in politics. With his ardent and fearless temperament he was impatient of expediency and inevitably trod on some sensitive corns and so gave offence; but he had the supreme gift of delight in the use of all his gifts and so was never idle, slack or at a loss for something to work at or fight for. To look at he was a man created for friendship and for happiness; he had the grand air, and the average man looked sadly commonplace by his side; his happy home life and his private practice are sympathetically described in the chapter immediately before the last section of his life, that during the War, which contains his efforts to get to the Front, his activities there, and the tragedy of his premature death.

DISEASES OF OCCUPATION AND VOCATIONAL HYGIENE. Edited by GEORGE M. KOBER, M.D., LL.D., Washington, D.C., and WILLIAM C. HANSON, M.D., Belmont, Mass. With illustrations; pp. xxi + 918. Price 32s. net. London: William Heinemann (Medical Books) Ltd., 1918.

In this comprehensive volume, by several writers, occupational diseases are dealt with in such a way as to make the book of interest to medical and legal experts and also to employers of labour. The experience is mainly drawn from America, Sir Thomas Oliver being the only contributor from the United Kingdom. The subject matter is grouped under three heads: Part I—Specific diseases of occupation: Intoxications, infectious diseases, dust diseases of the lungs, fatigue and occupation, and occupational diseases of the skin. Part II—Causation and prevention of occupational diseases and accidents. Part III—The relation of clinics, statistics, and legislation to occupational diseases. There is, in this part, a description of the Milan (Italy) clinic for occupational diseases by Dr. Luigi Devoto, the director. A useful and informing chapter is the one on "The Uses and Fallacies of Statistics." It is a book that can be very profitably studied, especially in relation to the present inquiry into the administration of the Workmen's Compensation Act. At the end of each section a comprehensive bibliography is inserted. In the last part a well drawn up list of industrial poisons, and another of "industries and poisons" will be found, together with occupational mortality and morbidity statistics.

DENTAL SURGERY AND PATHOLOGY. By J. S. COLYER, F.R.C.S., L.D.S. Fourth edition. With 920 illustrations; pp. xiv + 899. Price 32s. net. London: Longmans, Green and Co., 1919.

This is a much enlarged edition, which the increased knowledge of the last few years demands. It deals with aetiology and pathology rather than with the elaborate technique involved in dental operations, for, as the author states in his preface, "so-called conservative dentistry often retains sources of sepsis," and the general health of the patient ought to be the object aimed at. The book is truly British in character, dealing in fairness with antagonistic views, evidenced by the abundant references given, but fearless in the expression of the author's own convictions. The illustrations are abundant and well chosen. Abnormalities and irregularities of the teeth are attributed to diminution in the size of the jaws, "a characteristic developed in each generation as the result of the action of the environment" (Sim Wallace). The effects of mouth breathing and adenoids are fully discussed. The surgical and mechanical methods of treatment are extensively illustrated; 150 pages are devoted to dental caries, most of which is entirely new in the light of present day knowledge. The chemical changes, microscopical appearances and bacteriology are fully explained, and the various theories which lead up to the statement "that the prevalence of dental caries in modern races is due to the soft character of the food and the increase of carbohydrates which undergo rapid fermentation." The details of the "elaborate technique" of dental operations is not omitted in spite of the author's previous statement. The morbid anatomy and pathology of periodontal disease is illustrated also by comparative specimens. It is shown that pockets around the teeth are stagnation areas and that it is impossible to eradicate them; cures of periodontal disease are rare, but the progress of the disease is greatly influenced by the degree of resistance offered by the tissues. Treatment falls under two headings: local, by the dental surgeon and by the patient; general, by the physician or surgeon, under which the value of vaccine therapy is examined. The popular term for this disease is studiously avoided. The chapters on tumours, diseases connected with the teeth, diseases of the gums and oral mucous membrane, saliva, odontomes, various swellings and fractures of the jaws, should give the work a place in every medical library, for probably no other book contains so much reliable information on these everyday diseases of such far reaching importance.

A PHYSICIAN IN FRANCE. By Major-General Sir WILMOT HERRINGHAM, K.C.M.G., C.B. late Consulting Physician to the Forces overseas. With 9 illustrations; pp. viii + 293. Price 15s. net. London: Edward Arnold, 1919.

Sir Wilmot Herringham went to France on October 20, 1914, and remained out until 1919, and for almost the whole of the time was at general headquarters with Sir Anthony Bowlby, a very happy association; he was first called to general headquarters to attend Lord Roberts in his fatal illness, and was with him when he died. His work, which was to go round the medical cases with the resident medical officers and to assist them in every way possible, was much the same as that of a hospital physician at home, except that he was not responsible for the treatment; but the most important duty of all seemed to him to be the stimulation of the medical officers to an interest in their work and the prevention of careless methods which the circumstances of war and the deficiency of scientific equipment in the clearing stations are apt to produce. While insisting on the cordiality with which the Royal Army Medical Corps received the civilian medical men, he is under the impression that at first the appointment of consultants was regarded merely as "eyewash," though eventually its utility was proved. In a general sketch of the R.A.M.C. the transformation that has taken place since his student days is outlined, and he discusses the difficulties attendant on the necessary expansion of the corps during the war. The organization in the field is described, especially the field ambulance and the clearing stations; though out of his official sphere a base hospital was visited by himself as a patient with sciatica, and there he was very much spoilt, partly an account of his rank, partly because he was a doctor, and partly in respect of his 62 years of age. To the critics of the R.A.M.C. who chiefly complained that there were more officers than were needed, he retorts that they were ignorant, sometimes amusingly so,

of organization and did not realize how much larger a number of medical officers is required by a fighting force than by a civil population. Enteric fever, cerebro-spinal fever, trench fever, and shell shock are discussed in language that the lay reader can understand; the way in which medicine has been advanced during the war and the work of the Medical Research Committee are described, and he considers it certain that the German output does not compare with ours either in volume or in value. So much for the strictly medical part of the book, which, however, is on the whole rather less than that dealing with the life in France and reflections aroused thereby; thus the first four chapters, "The Surprise," "The Two Ideals," "The Two Tempers," and "The Stake," deal with the outbreak of war, and the contrast of the German and British nations and their aims. While full justice is paid to the thoroughness of German workers, the real glory of Germany is shown to be a sincere reverence for learning and for labour and a real comprehension of the dignity of both; and thus she can read us the greatest lesson for all, for while she worshipped work, we worshipped play. The last chapter repeats this note to the effect that we have lost the desire for work and the pride in working well, but the last sentence of the book ends more cheerfully in the belief that, although at present labour has lost its head, the men who saved Europe are not likely to ruin England.

MANUAL OF TROPICAL MEDICINE. By ALDO CASTELLANI, C.M.G., M.D., M.R.C.P., and ALBERT J. CHALMERS, M.D., F.R.C.S., D.P.H. Third Edition. With 16 plates and 909 other illustrations; pp. x + 2436. Price 45s. net. London: Baillière, Tindall and Cox, 1919.

This publication is so well known to all students of tropical medicine that a note on its contents is almost superfluous. Large portions of the book have, however, been rewritten, and new subjects have been introduced, so that the manual is thoroughly up to date. The mass of information contained in its two thousand odd pages is prodigious, and as a book of reference on tropical diseases, both from a pathological and a clinical aspect, it is undoubtedly of great value. The authors are aware that the volume is unwieldy, but they are of opinion that it is more convenient for the tropical practitioner than if it were divided into two parts. This point has already received notice in the various reviews which have appeared in the medical press. Much of the information contained in the book is based on the personal experience of the authors, and, as such, is naturally subject to debate. The volume is divided into three parts. The first part is of an introductory nature, and deals briefly with the history of tropical medicine, tropical climatology, foods, and diseases generally, and with the conditions which determine fitness for a tropical life. In the second part the causes of tropical diseases are discussed in detail. Practically every aetiological factor which is definitely known to have, or which may possibly have, any relation to tropical diseases, is touched upon. Chemical causes (poisons, poisonous foods, and venomous animals), physical causes (humidity, pressure, radiation, &c.), and parasitic causes are dealt with consecutively. The parasites are classified systematically, and are named in accordance with the international rules of zoological nomenclature. They include protozoa, worms, ticks, mites, &c., and the enormous and important disease-bearing class—insects. Of the vegetable parasites, the bacteria are described somewhat shortly, and chiefly from the point of view of indicating the systematic relationship of the various genera and species; an admittedly difficult task. The three chapters which deal with the fungi constitute a useful addition to the literature of the tropical practitioner who requires information on the fungal causes of disease. Professor Castellani is an authority on medical mycology, and a compilation from his pen on this subject must be worthy of every consideration for accuracy. In Part III, which forms the greater part of the volume, the authors describe at length the symptoms, treatment, and clinical features generally, of the various diseases of the tropics. They divide the subject into three sections, dealing respectively with fevers, general diseases, and systemic diseases. In the two first-named sections the diseases are classified according to their mode of origin (whether protozoal, bacterial, &c.) and are further arranged under the headings of the intermediate host or carrier by which they are transmitted to man. Among the systemic diseases, special attention is given to diseases of the alimentary tract, such as dysentery,

cholera, sprue, &c., and to the skin diseases which are peculiar to tropical regions. Other diseases, however, receive ample consideration, and a useful bibliography is attached to each of them. The volume is well illustrated, and contains a number of coloured plates and a large index.

MEDICINE IN ENGLAND DURING THE REIGN OF GEORGE III. The Fitzpatrick Lectures delivered at the Royal College of Physicians, 1917-1918. By ARNOLD CHAPLIN, M.D.Cantab. Pp. 141. London: Published by the author, 1919.

The reign of George III covers a most interesting period in the general intellectual life of this country when liberty of thought based on free and scientific inquiry was dispelling the fixed doctrines of traditional authority; medical thought began to move at the same time, for, apart from Sydenham and Harvey, who were a century in advance of their time, the desire to appeal to facts ascertained by experiment had little influence on Medicine until the end of the eighteenth century; during the first half of this century Medicine was under the sway of various "systems" founded for the most part on metaphysical speculation and retarding rather than advancing a just conception of the subject. But early in the reign of George III Morgagni's great work, translated into English by Alexander in 1769, began to exert its influence in Britain and inspired Matthew Baillie and others. Dr. Arnold Chaplin describes at some length the conditions of the medical profession; in 1782 there appear to have been 4,459 medical practitioners in England and Wales with an estimated population of nearly eight millions, or one medical man to every 1,782 persons, as compared with one to 1,440 at the present time. Nor has the scale of remuneration altered much; physicians charged a guinea, which then had a far greater purchasing power, and a relatively larger number of physicians than now secured a handsome competence in those days. The College of Physicians, the Corporation of Surgeons, and the Society of Apothecaries had control over the London district, but in the provinces there were a large number of ignorant and irregular practitioners; this danger to the public weal led to the passing of the Apothecaries Act in 1815, and thus to an immense advance in the regulations for the control of the medical profession, for it at once placed the education of about three-quarters of those intending to practice under the control of the Apothecaries Society. The state of medical education in London and at the universities, the hospitals, the medical societies, and the medical press are discussed, and an account of the long drawn out contest between the Royal College of Physicians and its licentiates, in which William Charles Wells, the famous author of "An Essay on Dewd," took part, is given. A specially attractive feature of these lectures lies in the biographies of contemporary physicians, such as Thomas Young, Sir George Baker, William Heberden the elder, and especially of Wells, who, after a dire struggle with penury and ill-health, desired only the modest epitaph that "he had tried to extend the boundaries of knowledge." The medical work of Wells has been rather forgotten, and few now realize that he to some extent anticipated Blackall and Bright in the recognition of albuminuria, and that Darwin gave him the credit of having first enunciated the principle of natural selection. The lectures contain accounts of the illnesses of George III, Napoleon, Samuel Johnson, and Charles James Fox, and the review of Medicine during this period is completed by consideration of its relations to the State, such as the treatment of the insane, of prisoners and of paupers, the rise and effects of vaccination, the inception of sanitary science, and the development of the medical services of the Royal Navy and Army.

PSYCHOSES OF THE WAR: INCLUDING NEURASTHENIA AND SHELL SHOCK. By H. C. MARR, Lieutenant-Colonel R.A.M.C. Temp., M.D. With 60 illustrations; pp. xiii + 292 + 38. Price 16s. net. London: Henry Frowde, Hodder and Stoughton, 1919.

The title of this work is perhaps somewhat misleading, since the contents are those mainly of an ordinary text-book on mental diseases but with clinical illustrations mostly taken from Service cases. After a very brief reference to the borderland of mental disease, the anatomy and histology of "the seat of mind" is dealt with, followed by the various means of observation of mental phenomena, the classification of mental affections,

malinger and feigned insanity. Neurasthenia and psychasthenia are then discussed, and lastly the various psychoses. An appendix on the examination of the cerebro-spinal fluid is added, as well as some pages on mental case-taking. The book is fully illustrated. It is at once evident that the author is not in any way in sympathy with modern psychiatric trends of thought, and Bolton's theories on mental pathology are seemingly accepted without question. There are many points to which exception might be taken. Much doubt might be expressed concerning some of the writer's nosological grouping. Hysteria is regarded as a symptom-complex of neurasthenia, and the so-called functional psychoses come under the heading of "mental enfeeblement (adolescent)." The statement that "in insanity, loss of mind and wasting of cerebral tissue go hand in hand" can surely hardly be supported, while statistics by other psychiatrists in no way confirm the author's findings, and certainly not his statement that 42.31 per cent. of the soldiers admitted to mental hospitals were found to have been weak-minded from birth! Much in the book is very far removed from modern teaching, and this naturally detracts greatly from its value.

THE ESSENTIALS OF CHEMICAL PHYSIOLOGY. For the use of Students. By W. D. HALLIBURTON, M.D., LL.D., F.R.S. Tenth edition. With coloured plate and 71 other illustrations; pp. xi + 324. Price 12s. 6d. net. London: Longmans, Green and Co., 1919.

As the title implies, this handbook mainly deals with the chemical composition of the body and the part played by its various constituents in carrying on the phenomena of life, but it necessarily also includes the closely allied subject of physiological chemistry, which is a branch of organic chemistry and treats of the composition and reactions of physiological substances. The work consists of two courses—the one an elementary and the other an advanced course, the order in which the subjects are treated being the same in both. The instruction is partly practical, partly theoretical, and is clear and up-to-date; thus vitamins and war margarine are duly considered. There is, in addition, an appendix containing descriptions of various laboratory instruments and of certain methods of research which should always be shown in demonstrations, though there may be practical difficulties in allowing each student to perform the experiment. There is much to interest the qualified man; under blood the difficult subject of immunity is described in a refreshingly lucid manner and in the simplest language. There is a useful index.

MENDELISM. By REGINALD CRUNDALL PUNNETT, F.R.S. Fifth edition. With 8 plates and 52 other illustrations; pp. xv + 219. Price 7s. 6d. net. London: Macmillan and Co., Ltd., 1919.

Gregor Mendel's work, published in 1865, opened up new lines of thought, and although almost unnoticed for nearly forty years, led to a vast number of experiments, while it provoked much constructive criticism. The present book deals with the problem which Mendel set himself to solve, and the contributions made to this end by subsequent workers. The association of Mendelism with the many questions raised by the study of heredity is obvious, but, until the work done with the fruit-fly *Drosophila* revealed the intimate relation of the chromosomes of the living cell with the phenomena of heritage, researches seemed mere patchwork, and their knitting together into a homologous whole a matter of almost insuperable difficulty. As in Darwin's pronouncements working hypotheses were requisite in post-Mendelian schemata. Professor Punnett details the apparent rifts in the orderly procession of reasoning from hypothesis to experiment, and from experiment to proof. We are introduced to Mendel's work with *Pisum sativum* and kindred plants, while succeeding pages reveal how the interaction of factors explains many difficulties. Reversion, dominance, variation in wild forms and domestic varieties are considered. One of the most puzzling questions at issue is sex, and to this two long chapters are devoted. The principles of Mendelian heredity are involved in economical procedures, such as breeding of cattle and floriculture, and it is believed that they control the problems which man has to face. Practically all these aspects find exposition in Professor Punnett's volume, and much that was vague when Mendel left his work is now shown to be clear and convincingly true.

DISEASES OF THE EAR IN SCHOOL CHILDREN: AN ESSAY ON THE PREVENTION OF DEAFNESS.
By JAMES KERR LOVE, M.D., F.R.F.P.S.Glas. Pp. viii + 94. Price 5s. 6d. net.
Bristol: John Wright and Son, Ltd., 1919.

In continuation of the work with which his name has been so long associated, Dr. Love here gives some further fruits of his experience in dealing with cases of ear disease. He holds that "nearly all the middle-ear disease of later life, both suppurative and non-suppurative, commences during the earlier years of the school period," and he shows the importance, and, incidentally, the convenience, of aural school clinics in providing the necessary safeguards. An account is given of the clinics established by the Glasgow School Board and the Secondary Education Committee of the County of Dumbarton. A chapter is devoted to the part played by syphilis in causing deafness, and Dr. Love suggests that the effects both of this disease and of measles are apt to be under-estimated. He inclines to the opinion that hereditary deafness is dependent on the existence of one or more recessive Mendelian characters, and finds in the fact that "infectious diseases or wrong marrying"—both preventable conditions—include most of the causes of deafness ground for hoping that the disease is capable of being almost entirely eliminated. Some general considerations of treatment are scattered through the book, and it may be noted that a conservative attitude is taken up in regard to the mastoid operation, though it is held that cases following the exanthemata should not be allowed to leave hospital until by this or other means all discharge from the ear has been arrested.

THE PITUITARY: A STUDY OF THE MORPHOLOGY, PHYSIOLOGY, PATHOLOGY, AND SURGICAL TREATMENT OF THE PITUITARY, TOGETHER WITH AN ACCOUNT OF THE THERAPEUTICAL USES OF THE EXTRACTS MADE FROM THIS ORGAN. By W. BLAIR BELL. With 190 illustrations; pp. xx + 329. Price 30s. net. London: Ballière, Tindall and Cox, 1919.

The first 78 pages consists of the anatomy and comparative anatomy of the pituitary body and contains original work on the comparative anatomy from the lowest to the highest vertebrates. The next 145 pages deal with the histology and physiology of the gland. Experiments by the author are described showing the effect of the complete removal of the pituitary body in dogs, the partial removal of the anterior and posterior lobes, and the removal of the anterior and posterior lobes separately. The inter-relation between the other ductless glands and the ovary and uterus are discussed, with experiments by the author, with illustrations. A full account is given of the diseases of the pituitary and the associated symptoms, including effects on the optic tract, followed by the medical and surgical treatment of pituitary lesions. The last 26 pages are devoted to the therapeutical uses of the gland in general medicine, obstetrics and surgery. The work is admirably arranged and profusely illustrated and forms a valuable addition to the literature of the subject.

THE FORMS OF ALCOHOLISM AND THEIR TREATMENT. By HUGH WINGFIELD, M.A., M.D., B.C.Cantab. Pp. vi + 76. Price 5s. net. London: Henry Frowde, Hodder and Stoughton, 1919.

In considering the problems of alcoholism it is pointed out that drunkards, although regarded by the laity as simply vicious, are weaklings and victims, more than offenders, whose excesses are often due to environment or compulsion. In some cases hereditary tendency predominates while resistance is recessive. Sir Archdall Reid's views are quoted as suggestive of an acquired protection against alcoholism among habitual drinkers due in part to natural selection and in part to dying out of the unprotected. The effects of alcohol on the individual are next considered. The excessive euphoria and paralysis of the will makes for drunkenness. A careful examination is made of the forms of alcoholism in pseudo-dipsomania, possibly the primitive type, in which the craving is only excited by drink, the bouts are ended by physical disability; chronic sober alcoholism, when the patient regularly drinks to excess, but does not become drunk, and craving supervenes only on withdrawal of the drug; chronic inebriate alcoholism resembles the last of these, but the patient is never sober, and—true dipsomania.

The factors making for alcoholism are: (1) euphoria, craving for the pleasure associated with drink; (2) dysphoria, a craving to counteract the misery of depression; (3) varieties of natural tolerance; and (4) partial paralysis of the inhibitory mental functions. To these must be added a fifth, viz., the condition provoked by complete abstention after prolonged continuous excess. The varieties of alcoholism and their etiological factors are minutely discussed. Jauregg's theory of an anti-alcohol toxin is regarded as a useful working hypothesis, valuable as a guide to treatment. Compulsory restraint with segregation is discountenanced by the writer, who at some length describes more systems of combating the drink disease. He insists upon recognition of the cause and type of each case before imposing alcohol restriction and the use of drugs. Hypnotic suggestion he regards as useful in suitable cases.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(VOL. XIII, No. 5, MARCH, 1920).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—ED.]

THE URETHROSCOPE IN THE DIAGNOSIS AND TREATMENT OF URETHRITIS. By Major N. P. L. LUMB, O.B.E., R.A.M.C.(T.C.). With 40 original illustrations; pp. xii + 51. Price 10s. 6d. net. London: John Bale, Sons and Danielsson, 1919.

Thanks to the illustrations, this book enables everyone in possession of a urethroscope to obtain a sound knowledge of the various conditions of the urethra and its diseases. The manipulation of instruments during observation and operations is first explained, then normal and abnormal appearances, finally there are indications when not to use as well as when to use the urethroscope. There are clinical notes and illustrations of progressive changes in the course of typical cases. Coloured plates similar to these should be accessible whenever instruction in venereal disease is given.

VITAL STATISTICS: AN INTRODUCTION TO THE SCIENCE OF DEMOGRAPHY. By GEORGE CHANDLER WHIPPLE, Professor of Sanitary Engineering, Harvard University. Pp. xii + 517. Price 18s. 6d. net. New York: John Wiley and Sons, Inc. London: Chapman and Hall, Ltd., 1919.

The aim and scope of this book is well summed up in the statement in the preface that it makes no claim to be an exhaustive treatise or a compendium of facts, but is merely a guide to the study of vital statistics, and is written for students who are preparing themselves to be public health officials and for public health officials who are willing to be students. To such the book should be very valuable, as it gives a detailed and complete account of the elementary principles of statistical methods, including the tabulation, diagrammatic and graphical representation of data, the computation of birth-rates and death-rates, with their analyses and standardization, the construction of a life table, the theory of probability, correlation, &c., as well as repeated warnings against, and illustrations of, the common and not infrequent fallacies which are so liable to appear in the treatment of statistical data by the unwary. At the end of each chapter exercises and questions relating to the subject matter are given, and with these are associated in many cases references to books or papers from which full information on the subject may be obtained. A noteworthy feature of the book is the account of a plotting paper devised by Dr. Allan Hazen, called an arithmetic-probability paper, and somewhat analogous to the semi-logarithmic paper in which the percentage scale is so spaced that any set of figures which follows the natural law of probability plots out as a straight line, thus greatly facilitating the use of the theory of probability in statistical work. On p. 177 is to be found a very interesting and striking series of graphs compiled from the statistics of

Sweden from 1750 to 1900, illustrating the change in the age distribution of a population from year to year, where there is much variation in the birth-rate, a high birth-rate giving rise to a peak in a certain age-group in any one year causes a peak in a higher age-group a few years later, and this increase can be traced in the graphs throughout the whole period of life. The volume contains a useful list of references to works on the subject of statistics, as well as a table of logarithms for numbers up to 1,000. It should serve admirably the purpose for which it has been designed.

VENEREAL DISEASES: A PRACTICAL HANDBOOK FOR STUDENTS. By C. H. BROWNING, M.D., D.P.H., and DAVID WATSON, M.B., C.M. With an Introduction by Sir JOHN BLAND-SUTTON, F.R.C.S. With 25 coloured plates and 51 other illustrations; pp. xv + 336. Price 16s. net. London: Henry Frowde, Hodder and Stoughton, 1919.

The authors supply the essentials of knowledge necessary for students in the prevention and limitation of the ravages of venereal diseases. The response to early treatment is contrasted with the refractoriness manifested in later stages, and the information given is detailed in such a way that students at venereal clinics in which laboratory work is carried out will be enabled to correlate manifestations and carry out thorough treatment. The book indicates what amount of knowledge should be imparted to students in order to remove defects in teaching how to treat early syphilis and gonorrhoea in surgical lectures and departments. Secondary and cutaneous manifestations are considered to belong to the province of teachers of skin diseases, whereas later manifestations are to be regarded as appertaining to the departments of general medicine. Although teachers have individual methods of imparting instruction a merely superficial perusal of the ideas of others will enable them to make several diseases better understood by the profession as well as by the public.

DISEASES OF THE DIGESTIVE ORGANS: WITH SPECIAL REFERENCE TO THEIR DIAGNOSIS AND TREATMENT. By CHARLES D. AARON, Sc.D., M.D. Second edition. With 156 engravings, 48 Roentgenograms, and 9 coloured plates; pp. xlvii + 818. Price \$7.00. Philadelphia: Lee and Febiger, 1918.

Professor Aaron's text-book is not restricted to disorders and diseases of the digestive system, but is a more general treatise upon the alimentary canal and its adjuncts and his selection is based upon an anatomical rather than upon a physiological or clinical differentiation. Thus in addition to the ordinary details relating to digestion and its disorders, ulcers of the intestine as a whole—catarrhal, tuberculous and typhoidal—all receive attention, and a chapter is devoted to the animal parasites of the intestine. Like most American works, the usual luxuriousness in production with prodigality of illustrations is to be noted. Yet the coloured illustrations portray such familiar details that one would have thought their expense was hardly justified, more especially as in one particular instance the coloration depicted by alizarin as an indicator in the analysis of test meals, is distinctly unconvincing. Whilst on the subject of test-meals it may be noted that the only method described in analysis is Töpfer's. The more elaborate methods which are common in this country do not seem to find favour in America. Dietetics in all its aspects, and diseases directly attributable to improper or diseased food are considered in great detail. It is interesting to note that of 274 cases of trichinosis investigated in America by Stiles, 208 were those of Germans. Intra-gastric technique is dealt with from every point of view, including lavage, massage and electricity, although the author quotes Freund to the effect that the influence of electricity on gastric secretion is absolutely negative. In all, 241 pages are devoted to investigation and general treatment before the formal description of diseases is undertaken. The author regards hyperchlorhydria as a condition in which the quantity of gastric juice is normal, but the percentage of free hydrochloric acid is higher than normal, or in other words, that hyperchlorhydria is distinct from hypersecretion. In the treatment of gastric ulcer he recommends the subnitrate of bismuth in preference to other salts, because of "the nascent nitric acid which is liberated and acts as a stimulant, astringent, and antiseptic." All the specific tests for carcinoma of the stomach are described in detail, and gastro-enteroptosis is very exhaustively considered, although it

may be remarked that in these days of food restrictions the provision of lavish quantities of butter and cream recommended is hardly likely to be ratified. Duodenal exploration and alimentation, which are comparatively unrecognized in this country, are mentioned on several occasions, and recommended in the treatment of hepatic cirrhosis as well as of gastric ulcer. The technique is fully described; and, since from the illustration appended the operation is being performed by a nurse, we conclude that it does not demand the peculiar skill which is generally regarded as associated with the practice. In the consideration of primary atonic constipation the condition with which we have long been familiar as "greedy colon" is described as a recent observation of Adolf Schmidt, Strasburger and Lohrsch. The author is a warm advocate of greater liberality than is customary in the treatment of typhoid fever, and the diet he permits might in comparison with the old régime be regarded as almost a banquet. He is also strongly in favour of the Ochsner method of delaying operation in cases of acute appendicitis, and states that it is entitled to the greatest consideration, and has been greatly misunderstood by the profession.

THE PHYSIOLOGY OF MUSCULAR EXERCISE. By F. A. BAINBRIDGE, M.A., M.D.Cantab., D.Sc., F.R.C.P., F.R.S. With 22 diagrams; pp. ix + 215. Price 10s. 6d. net. London: Longmans, Green and Co., 1919.

The author's object in this monograph is to present the subject in such a manner as to promote a closer connexion between the laboratory worker and those directly concerned with the health and well-being of the community; thus, a fuller realization, and a more direct practical application by employers and administrators, of the physiological principles underlying the capacity of the body to perform muscular work would undoubtedly increase the output and improve the health of industrial workers. As muscular exercise is as much a nervous as a muscular process, its beneficial effects are seen in the psychical as well as in the physical life of the individual. Muscular exercise presents three problems: (1) The changes in the skeletal muscles, whereby the transformation of energy constituting muscular movement is effected; (2) the nature of the adjustments occurring elsewhere in the body in order to provide the muscles with the oxygen and food-stuffs necessary for this purpose; and (3) the means by which these are co-ordinated together in muscular exercise. These problems are considered in eleven chapters, each of which has a convenient summary. The discussion of the evidence as to the relative importance of carbohydrate and fat as the source of energy in muscular contraction shows that carbohydrate takes the first place, although there is reason to believe that fat is also utilized for this purpose to some extent. The rise of temperature during exercise, due to the increased oxidation of fats and carbohydrates, increases the efficiency of the circulatory and respiratory adjustments, and thus promotes the more efficient execution of muscular work. The causes of the rise of general blood-pressure and of dilatation of the muscular vessels, such as acid and other metabolites, are discussed. The share taken by adrenalin in bringing about the circulatory and other changes occurring during exercises, even when this is carried out under emotional stress, is comparatively small. The chapter on "Training" contains a physiological explanation of "second wind." The two concluding chapters are devoted to the after-effects of exercise. There is no direct evidence that exercise is ever harmful provided the individual is physically sound and in good health; when bad effects follow, and these can almost always be referred directly or indirectly to the heart, as in effort-syndrome and overstress of the heart, there is a definite cause such as infective disease or a sedentary life. The view that the respiratory symptoms in effort-syndrome depend upon a sufficiency of buffer-salts in the blood is not accepted.

ESSENTIALS OF PHYSIOLOGY. By F. A. BAINBRIDGE, F.R.S., M.A., M.D.Cantab., D.Sc.Lond., F.R.C.P., and J. ACKWORTH MENZIES, M.A.Dunelm, M.D.Edin. Third Edition. With 179 illustrations; pp. viii + 484. Price 12s. 6d. net. London: Longmans, Green and Co., 1919.

This text-book of the Essentials of Physiology is designed primarily to meet the requirements of students preparing for pass examinations. The present (third) edition has been thoroughly revised and a few new figures added.

MANUAL OF DISEASES OF CHILDREN. By JAMES BURNET, M.A., M.D., M.R.C.P. Edin.
Second edition. With plates and other illustrations; pp. ix + 416. Price 8s. 6d. net.
Edinburgh: E. and S. Livingstone, 1919.

In the preface to this second edition the author says that "in connexion with children's diseases statements are handed on from author to author without any attempt being made to verify or refute them by personal observation and investigation." This statement is so generally true that it applies even to the work under consideration, and the therapeutics of childhood would be much simplified if all mere traditions were abolished. The association of rheumatic infection and heart disease in childhood is so intimate that it seems a pity to deal with them in separate sections. The important subject of infant feeding is discussed very fully, and the advice given on the knotty problems involved bears the mark of experience and judgment. Diseases of the alimentary system occupy a large section and the minor as well as the major maladies of this group are duly considered. New sections have been added on the infectious fevers and diseases of the skin, the nose, the throat, and the eye. Several types of disease are illustrated by good photographs.

THE OLIVER-SHARPEY LECTURES ON THE FEEDING OF NATIONS. A STUDY IN APPLIED PHYSIOLOGY. By ERNEST H. STARLING, C.M.G., M.D., F.R.C.P., F.R.S. Pp. ix + 146. Price 5s. net. London: Longmans, Green and Co., 1919.

These lectures deal with the food requirements of a Nation, as based upon the physiological needs of the average "man" in energy and protein, and with the methods, administrative and other, by which the required amount of food may be produced or distributed. The effects of deficiency of food on national health are also briefly reviewed. Tables are appended showing the average composition and calorie value of the more important foods and the average yearly quantity of the total food consumed in the United Kingdom before the War.

ESSAYS ON THE SURGERY OF THE TEMPORAL BONE. By Sir CHARLES A. BALLANCE, K.C.M.G., C.B., M.V.O., M.S., F.R.C.S., with the assistance of CHARLES DAVID GREEN, M.D., F.R.C.S. Two volumes, with plates and figures; pp. xxxvii + 612. Price £5 5s. London: Macmillan and Co., 1919.

Sir Charles Ballance's contributions to the surgery of the temporal bone are so well known and so highly appreciated by the profession that anything coming from his pen on this subject possesses more than ordinary interest. His recently published Essays on "The Surgery of the Temporal Bone" reflect the greatest credit on his studiousness, his extensive knowledge and his method of expression. The book before us is a *magnum opus* in every sense. It is lavishly illustrated, beautifully printed and neatly bound. Begun before the War, the Essays have been gradually compiled as time and opportunity in a busy and strenuous life afforded. In some respects this intermittency has been a misfortune, as the years which have elapsed since the Essays were first commenced have added a good deal to the sum of human knowledge and additions here and there would have made certain of the chapters more up-to-date, a fault, however, which the author will doubtless rectify in a second edition, which we have no hesitation in saying will soon be called for, if it has not been called for already. In a masterly preface, the author lays stress upon the half-hearted way with which aural surgery is regarded by many large and important British hospitals even to-day. The inadequacy of many aural departments in this country, the small number of beds assigned to the aural surgeon, the want of sufficient assistance, and in some places, efficient assistance, and the outstanding fact that aural surgery is not made a compulsory subject in the medical curriculum are blots on our acquaintance with the practical importance of diseases of the temporal bone. This great work, if read and mentally digested by the members of the General Medical Council, should serve to impress upon them the immense importance of making the study of diseases of the ear compulsory. The general historical survey as detailed in Chapters I and II is a mine of interesting information. Admirably compiled, it forms in itself an erudite review of what has led up to our present knowledge of the frequent and often fatal ravages of temporal bone sepsis. Chapter III dealing with

important anatomical details is of extreme value to the student, and is replete with reference to the work of British and foreign authors. The chapter devoted to pathology is conspicuous from the wealth of information it contains. The paragraphs devoted to the consideration of thrombosis of the sinuses and of the diploëtic venules, a subject with which the author's name will for all time be linked, stands out prominently as a masterly contribution to the subject. To do anything like adequate justice to the various Essays would require a much more detailed criticism than is possible in a necessarily short review. Those interested in the practice of aural surgery will be well repaid by reading and inwardly digesting each chapter separately. In the reviewer's opinion, Chapters VIII, IX, X and XII are the best exposition of the particular subjects dealt with it has been his good fortune to read. The author, eminent as he is as a general surgeon, will doubtless go down to posterity as one of the foremost and most original of aural surgeons. The two handsome volumes should be in the possession of every library, and in the hands of every practising aural surgeon. In the compilation of the Essays, the author has been ably assisted by Mr. Charles David Green, to whom our thanks and congratulations are also due. The publishers, Messrs. Macmillan and Company, are to be highly commended for the general excellence of their work, and more particularly upon the excellence of the illustrations. Let it suffice to say that the work is a truly noble contribution to British surgery, and will ever remain a permanent memorial to the industry and intellectual capacity of one of the foremost surgeons of our day.

THE ART OF ANÆSTHESIA. By PALUEL J. FLAGG, M.D. Second edition. With 136 illustrations; pp. xviii + 367. Price 18s. net. Philadelphia and London: J. B. Lippincott Co., 1919.

The book presents the views on anæsthesia and analgesia current in the United States. It deals largely with the administration of ether by the methods now commonly adopted in this country: the open, the closed, intrapharyngeal, intratracheal, intravenous, and colonic etherization. Some of them are fully described; some receive a more cursory notice. The nitrous-oxide and oxygen method is extolled for major surgery, but it is pointed out that for various types of operation the addition of ether is advisable. Chloroform is dealt with very briefly; quoting the pronouncement of the Committee on Anæsthesia of the American Medical Association, the writer insists: "The use of chloroform as an anæsthetic for major surgery is no longer justifiable." Various forms of apparatus, many somewhat complicated, are described, but a chapter on emergency anæsthesia supplies hints for makeshift and simpler apparatus. Local analgesia and spinal anæsthesia receive some attention and the anoci-association plan is fully treated, and commented upon favourably. The opening chapters present a good deal of valuable information on general anæsthesia, posture, symptoms and signs of anæsthesia, how to avoid dangers and how to cope with them when they occur.

HANDBOOK OF ANÆSTHETICS. By J. STUART ROSS, M.B., Ch.B., F.R.C.S.E. With an Introduction by HY. ALEXIS THOMSON, C.M.G., M.D., F.R.C.S.E., and Chapters upon Local and Spinal Anæsthesia, by WM. QUARRY WOOD, M.D., F.R.C.S.E., and upon Intratracheal Anæsthesia, by H. TORRANCE THOMSON, M.D., F.R.C.S.E. With 54 illustrations; pp. xii + 214. Price 7s. 6d. net. Edinburgh: E. and S. Livingstone, 1919.

After giving a brief but comprehensive review of the physiological actions of the agents employed in narcosis the author deals with shock and anæsthesia and includes Crile's well-known views upon the subject. A useful chapter on anoxæmia follows, which takes in its purview the causes, prevention and treatment of asphyxia. Various methods of employing recognized anæsthetics are described and the question of the advisability of permitting rebreathing, which involves the views of Yandell Henderson on acapnia, are duly set forth. A section is devoted to the knowledge to be derived from the clinical observation of the patient and its practical bearing. The usual anæsthetics are discussed and routine as well as less common methods of employing them are detailed. Such important matters as the

correct posture of the patient, the choice of the anæsthetic, dangers incident to anæsthesia with appropriate treatment, are all considered. Intratracheal insufflation is described by Dr. H. Torrance Thomson, while the subjects of local and spinal anæsthesia are epitomized by Dr. W. Quarry Wood. Three appendices deal with ether evaporation, percentages of ether in open methods, and the action of anæsthetics upon the blood.

NAVAL HYGIENE. By JAMES CHAMBERS PRYOR, A.M., M.D., Medical Inspector, United States Navy. With 153 illustrations; pp. 508. Price 12s. 6d. net. London: Wm. Heinemann (Medical Books), Ltd., 1919.

This manual, described as of an elementary character, for the United States Naval Medical School, is published with the approval of the Surgeon-General, U.S. Navy, and by permission of the Navy Department. It deals with hygiene of naval men in ships, submarines, in the air and ashore, is written tersely, and has 153 illustrations. After a short historical section, the development of naval architecture and its influence on naval hygiene are considered. Ventilation, heating, light, and the water supply next receive attention. The chapters on food and its inspection are illustrated by coloured figures of meat and contain much information; thus Buddeizing is a process of sterilizing milk recently employed along the Baltic: a small quantity of hydrogen peroxide is added to the milk, which is then subjected to a temperature of 122° F. for twenty minutes, thus driving off the peroxide and leaving the taste of the milk unimpaired. An account is given of the sick bay and the hospital ship. The special chapter on heat cramps contains the author's observations; under certain conditions not thoroughly understood, men in the fire rooms are attacked by painful cramps and show albumin in the urine; the treatment consists in hot baths, atropine, and, if necessary, morphine. In describing prophylaxis against venereal disease it is stated that while perhaps falling short of the extravagant claims of enthusiasts, carefully carried out personal prophylaxis undoubtedly reduces the incidence of disease by its antiseptic effect and by its educational results. The chapter on the disposal of the dead contains directions as to embalming and is followed by a glossary of nautical terms, and by an appendix on the physical examination of recruits which is illustrated by a number of finger prints.

LECONS DE PATHOLOGIE DIGESTIVE (QUATRIÈME SÉRIE). Par M. LOEPER. Pp. viii + 298. Price 11 fr. Paris: Masson et Cie, 1919.

This series of lectures on the pathology of the alimentary canal, the fourth that M. Loeper has published, is naturally based in great measure on data collected during the war. Although the war has not brought out any very remarkable discoveries in connexion with the alimentary canal it has greatly increased the incidence of the known forms of gastro-intestinal disease, and has multiplied the toxic and infective causes of abdominal disorder. A chapter is devoted to gastritis due to poisonous gases, of which the compound chlorine and yperite are the most irritating. The immediate effects of gassing are vomiting and hæmatemesis, but the delayed effects are important and frequent, especially in chlorine gas poisoning, in which about 30 per cent. of the men exposed are thus affected, the indigestion being either painful or flatulent in type. As in other forms of "dyspepsia," the author shows by cytological examination of stomach washings that there is gastritis to account for the symptoms. The dyspeptic conditions caused by explosions may be indirect and due to disturbance of the brain and medulla, the vagus and sympathetic being involved, or due to direct action of force on the abdominal contents—namely, the viscera or their nerve supply. Another form of dyspepsia rendered prominent by the war is that due to suprarenal insufficiency; this is characterized by gastric atony and constipation; hypodermic injections of adrenalin are followed by improvement, increase in the gastric hydrochloric acid and more active peristalsis. Attention is called to cæcal atony as a sequel of enteric fever; the symptoms are morning looseness of the stools, splashing as in a dilated stomach, and attacks suggesting appendicitis. The premonitory diarrhœa of a malarial paroxysm is described, and several chapters are devoted to the effects of dysentery. In various intestinal affections irritation of the celiac plexus plays an important part in causing pain and diarrhœa alternating with constipation,

the outcome of spasm and atony. From the spread of inflammation to the nerve fibres a persistent coeliacgia may result, and in carcinoma of the colon severe colic may be due to the extension of either inflammation or carcinomatous infiltration to the sympathetic.

MEDIAEVAL MEDICINE. By JAMES J. WALSH, K.C.St.G., M.D., Ph.D., Sc.D., Litt.D. With 9 illustrations; pp. xii + 221. Price 7s. 6d. net. London: A. and C. Black, Ltd., 1920.

In this book Dr. Walsh tells sympathetically the story of the medical sciences from the fifth to the fifteenth centuries. After a short account of early mediaeval medicine he deals with the great schools of Salerno and Montpellier and shows how much modern medicine owes to their teaching. He then tells of the great surgeons of Italy, France, Flanders and England, and draws attention to the fact that they often attained by the method of trial and error similar results in the treatment of wounds to those which have been recently obtained by more scientific means. The later chapters are devoted to the neglected subject of surgical specialities in mediaeval times, and Dr. Walsh is able to prove that much attention was devoted to the eyes, the teeth, the ear and the diseases of women. There is a chapter on hospitals and another on the treatment of the insane in the middle ages. Dr. Walsh has produced a very readable book on a difficult period in the history of medicine. He does not, however, write for the student and has contented himself in popularizing what was well known to the historian of medicine. There are a few errors to be corrected—e.g., Paynel's translation of the Regimen was published at least as early as 1530; St. Bartholomew's Hospital and the Priory of St. Bartholomew in Smithfield were distinct foundations from the beginning and both came into existence early in the twelfth century. There is a misprint in the second line of the Latin quotation on page 50. These small blemishes do not detract from the interest of the book for the general reader. There are eight well-executed illustrations.

MONOGRAPHS OF THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. No. XI: TOTAL DIETARY REGULATION IN THE TREATMENT OF DIABETES. By FREDERICK M. ALLEN, M.D., EDGAR STILLMAN, M.D., and REGINALD FITZ, M.D. With 62 charts; pp. vi + 646. New York: Rockefeller Institute, 1919.

The work of Dr. F. M. Allen on diabetes has been divided into three parts. An account of the first portion, in which the results of his experiments on diabetic animals were compared with diabetes in man, was published in 1913. The present volume deals with the second portion and describes a series of clinical investigations in which the principles of treatment elaborated from his experimental investigations have been applied to patients in the hospital of the Rockefeller Institute. A preliminary outline of the third part, devoted to a study of the pathology of diabetes, is also included. The present monograph comprises a record of 76 out of 100 diabetic patients which have been studied in conjunction with Drs. Stillman and Fitz. As the title denotes, the principle underlying the treatment adopted has been a regulation of the total diet, not merely of the carbohydrate ingestion alone. It is claimed that the results obtained demonstrate the practical value of this system of dieting and sustain the theoretical considerations from which it originated, for, although an actual cure, in the sense of a restoration of the normal powers of food assimilation, has not been attained in any instance, an amelioration of the condition and a prolongation of life and usefulness has been secured when the patient has been content to follow the dietetic restrictions laid down for him. The mistakes incident to a new method have reduced the general results below the theoretical ideal, but, considering the grave character of most of the cases selected for treatment and their probable fate under former systems of dieting, the measure of success secured has been encouraging. The first 65 pages of the work are devoted to a history of diabetes. The general plan of treatment adopted by the authors is then described; this chapter being divided into sections dealing with general measures, treatment up to the cessation of glycosuria, emergencies and complications, treatment following glycosuria, ideals of diet and laboratory control, and practical management of diets. A detailed record, with

numerous charts, of the cases investigated follows. In the succeeding chapters the effects of pancreas feeding, exercise, and fat in the diet are discussed. The following section is devoted to a critical survey of the results obtained, the reasons for failure in the treatment, the causes of death, complications, and prognosis. A short discussion of the etiology and pathology of diabetes concludes the work.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(VOL. XIII, No. 6, APRIL, 1920).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—Ed.]

DISEASES OF WOMEN. By THOMAS GEORGE STEVENS, M.D., B.S.Lond., F.R.C.S.Eng., M.R.C.P.Lond. Second edition. With 202 illustrations; pp. xv + 443. Price 20s. net. London: University of London Press, Ltd., 1919.

Mr. Stevens's book is relatively small, but the type is good, and one can pay the diagrams no greater compliment than by truthfully saying that one knows what they represent without reading the description, quite a rare merit in diagrams and illustrations. The subject matter of the book is an important one, dealing as it does with the defects and diseases of the female generative organs. It opens with a chapter on diagnosis, and shows that a combination of anatomical, physiological and pathological knowledge, if reinforced by clinical experience, and especially by *tactus eruditus*, will suffice to solve the problems of gynaecology. To help the student (are we not all students?) there are chapters on these subjects, followed by two on development and on malformations. Chapter VI deals with menstruation, its cycle, variations, and other characteristics. Is the author justified in saying that "Very few women can be said to be normal, mentally or physically, during menstruation?" Some observers of much experience would certainly question this dictum. The chapter closes with a much needed caution that all over-prolonged or irregular hæmorrhage at the menopause demands careful investigation. Chapter VII gives an account of the anomalies of menstruation. Attention is drawn to absence, irregularity, excess of menstruation, and to unduly painful conditions. Chapter VIII treats of the "infections of the generative system." It gives to gonorrhœa the prominence it deserves, and sketches the treatment to be adopted. The immediate symptoms and the later consequences of the gonorrhœal infection are carefully distinguished. Next come the infections following labour and abortion, many of which are septic in origin. Among these infections are cited the streptococcic, staphylococcic, the *Bacillus coli communis*, &c., the most frequent and the most dangerous being probably infection with the streptococcus, but all play an evil part in puerperal sepsis, and so do other micro-organisms on occasion. Infection with syphilis is also discussed and many other infections of the vulva and vagina, such as furunculosis. In Chapter IX there is information as to the pathological effects of parturition, some of which, of course, were included in the last chapter. This part of the subject is of equal importance to all medical practitioners and by no means concerns the gynaecologist only. Chapter X is a long one and deals with another common and universally interesting part of the subject, for displacements of the uterus, falling of the bladder and rectocele, are treated (or maltreated?) by us all. Chapter

XI sheds new light on, or rather it emphatically calls attention to, the much neglected subject of "disturbances of the sexual functions." It is wonderful how many otherwise good books on gynaecology fail to devote time and space to this most interesting and important part of the subject. The same remark might well be made with regard to "The urinary system in relation to gynaecology." Information about this was vainly sought by students until quite recently, but it is presented to us in Chapter XIII. Chapter XV gets back to the beaten track and discusses "new growths." Many students have a vain belief that displacements and new growths are practically all the troubles of importance to woman. They should read Mr. Stevens's book to get a fairer perspective. Chapters on preparations for operation and the after-care of operation cases close a most valuable book—one that is a pleasure to read and to review.

THE VENEREAL PROBLEM: A DESCRIPTION OF THE VENEREAL DISEASES: THEIR HISTORY; THEIR PREVALENCE IN GREAT BRITAIN; THEIR EFFECT UPON THE NATIONAL LIFE; THE FACTORS CAUSING THEIR PROPAGATION AND SPREAD; AND A DISCUSSION OF METHODS FOR THEIR CONTROL AND ERADICATION. By E. T. BURKE, D.S.O., M.B., Ch.B.Glas. With 6 illustrations; pp. xv + 208. Price 7s. 6d. net. London: Henry Kimpton, 1919.

Captain E. T. Burke brings a vivid interest and much experience to bear on his work in the important subject of venereal diseases. He writes in a simple, readable manner, and lays the subject before the public clearly and adequately. No one can write on a subject so important and so much discussed in a way to please all readers; but although Captain Burke is fully convinced that his own views are justified, he tacitly admits that other people are entitled to advocate theirs. The book is small, handy and well printed. It has a table of contents and an index which increase its value to busy people. He deals with venereal diseases as they concern the individual and the State. He briefly describes syphilis and gonorrhoea, and points out the very serious consequences of gonorrhoea, especially in woman, involving, as it does, some 75 to 80 per cent. of her pelvic troubles. Comparing syphilis with tuberculosis, scarlet fever, diphtheria, pneumonia, typhoid and influenza, we are shown that in 1910 it came fourth in killing power, tuberculosis being easily first with 51,317 deaths, pneumonia second with 39,760 deaths, but influenza, which stood third with 6,504 fatal cases, was not so wonderfully more disastrous to the individual life than syphilis, with 5,555 deaths. It must be remembered that whereas people die, or recover, from influenza, the secondary and tertiary states of syphilis lead to more crippling, and to more unemployment; and it must not be forgotten that it is a racial poison destroying the partner and the offspring of the sick man as no other disease has power to destroy them. Captain Burke pleads for the prophylaxis of purity, and offers sound advice as to the safeguards afforded by regular employment, athletics, adequate and suitable amusements, and, above all, by early marriage. He points out the dangers of regular prostitution and the still greater powers for evil of the amateur or clandestine prostitute. Captain Burke also recognizes the part played by alcohol in the acquisition and dissemination of venereal diseases, the obfuscated judgment of the alcoholic leading to both these evils, while alcoholism makes the process of cure more difficult and uncertain. Finally notification, education and prophylaxis are carefully discussed, and here we find how long is the road and how uphill is the climb to national purity and safety—still *ad sit spes fiat res* !!

PAINLESS CHILDBIRTH AND TWILIGHT SLEEP. By CECIL WEBB-JOHNSON, M.B., Ch.B., Captain, R.A.M.C.(T.F.). Foreword by COMYNS BERKELEY, M.C., M.D., F.R.C.P. Second edition. Pp. xviii + 169. Price 10s. 6d. London: Butterworth and Co., 1919.

There are two "forewords" to this book, one by Captain V. Green Armitage and one by Mr. Comyns Berkeley. The former was selected because he was "the only man of experience in India who had seriously studied the subject and obtained good results by closely following the proper technique." Doubtless by this time Dr. Green Armitage no longer stands alone in this respect. In his opinion, "IF THE CORRECT AND ATTESTED TECHNIQUE is carried out,

the doctor within easy call, and the nurse of accredited skill, the advantages of twilight sleep far outweigh the disadvantages, and this is particularly the case in primiparae." Mr. Comyns Berkeley was selected to write the foreword to the second edition because "he was neither a reckless enthusiast nor a bigoted opponent, but one who saw the dangers and pitfalls to be avoided and readily acknowledged the benefits to be gained." In Mr. Berkeley's opinion "there are certain disadvantages of which the patient is most probably unaware, but of which any doctor professing to use this method of treatment must be conversant. For instance, in a majority of cases labour is prolonged, the necessity for forceps extraction is increased, the percentage of ruptured perineums is higher, and the failure of occipito-posterior positions to rotate naturally, therefore necessitating operative interference, is greater. In other words, the general adoption of 'twilight sleep,' except on lines similar to those laid down in this book and with the conduction of labour with the same antiseptic and aseptic technique as is now obligatory on a surgeon when operating, would inevitably lead to an increased mortality and morbidity rate of the mother and child." The whole book leads irresistibly to the conclusions reached by Captain Green Armitage and Mr. Comyns Berkeley. One rises from its perusal more convinced than before that great as may be the advantages that may accrue to suffering womankind by a perfect application of the Freiburg method of procuring forgetfulness of the pains of childbirth, the price to be paid may be too heavy. The author, Captain Webb-Johnson, is an enthusiast, and would, if possible, annul the sorrow in which women bring forth children, but he sees clearly that long and special training is necessary to make the scopolamine-morphine amnesia (forgetfulness) safe. He admits that the drugs must be pure and the technique perfect if the process of labour is to be rendered pleasant while not increasing its danger. Captain Webb-Johnson very properly points out the distinction between "painless childbirth" and "twilight sleep," and tells us candidly that while, in his opinion, *amnesia* is compatible with safety, *analgesia* is not, with the means at present at our command. The book contains chapters dealing with the drugs, with the correct technique, and with the criteria on which variations of the treatment are founded. At the end of the book are specimen charts of the character and results of labour under twilight sleep, and evidently the author hopes that his readers may try the Freiburg method and tabulate their results. This is the way in which some more generally practicable a method may eventually be evolved.

THE AFTER-TREATMENT OF WOUNDS AND INJURIES. By R. C. ELSMSLIE, M.S.Lond., F.R.C.S.Eng., Brevet Major R.A.M.C.(T.). With 144 illustrations; pp. vi + 319. Price 15s. net. London: J. and A. Churchill, 1919.

The author has arranged his subject matter in two parts. In the earlier chapters he describes the principles which govern the after-treatment of wounds and injuries, and includes mal-union, delayed union, and non-union of fractures; stiff and flail joints; injuries of nerves, muscles, tendons, and skin. In the later chapters he has followed a regional classification, and deals with the injuries of specific regions, the upper and lower extremities and the spine. Many helpful examples of actual cases are given. Considerable space is devoted to the normal anatomy of the peripheral nervous system: it is a question whether this is necessary in a book of this character. Whilst the author acknowledges his indebtedness to the teaching of the principles of orthopaedics by Sir Robert Jones, many of whose methods he has employed, he strongly supports the radical operation described in Professor Broca's book for the treatment of chronic osteomyelitis. The chapter devoted to amputations impresses the principle that the site of amputation must be determined by the functional utility of the final stump. The last three chapters deal with plaster of Paris technique, splints and surgical appliances and physiotherapy. Three principles are strongly emphasized upon the reader throughout the book: the necessity of a knowledge of the pathological condition, a clear appreciation of the mechanics of the part, and a constant aim at the restoration of function. The work is the result of an extensive personal experience of cases, mainly at the Special Military Surgical Hospital at Shepherd's Bush, and will prove a valuable guide to surgeons employed in reconstructive surgery.

PENSIONS AND THE PRINCIPLES OF THEIR EVALUATION. By LLEWELLYN J. LLEWELLYN, M.B.Lond., and A. BASSETT JONES, M.B.Lond., Temporary Captain R.A.M.C. With a Section on Pensions in Relation to the Eye, by W. M. BEAUMONT. Pp. xxvii + 702. Price 30s. net. London: William Heinemann (Medical Books) Ltd., 1919.

The main object of the authors of this book is to express in grades of incapacity, for purposes of pension, the effects of injury and disease incurred in military or naval service. They have accordingly surveyed a very large number of such conditions which disable or partially disable a man, and have set out the various factors in each case which should influence the examiner in determining the actual grade of incapacity resulting from the injury or disease. In addition, the book contains a number of chapters dealing with the history of State-provided pensions, recent legislation, procedure in administration, and other subjects. We learn that provision of some sort or other for the disabled soldier dates from Anglo Saxon times, when every "ceorl" who was liable to serve had "five hides of land" and certain dignities. Under the feudal system the barons made grants to their retainers. Edward the Fourth made grants for battle service to certain individuals, but the first statute for providing for maimed soldiers and mariners dates from the reign of Elizabeth. The authors describe the later evolution of the pension system up to the issue of the Royal Warrant of 1918. With an organization changing so frequently in its details, and growing so rapidly, as the Ministry of Pensions, it is unavoidable that some sections of this book should quickly get out of date.

THE PRINCIPLES OF GYNÆCOLOGY: A MANUAL FOR STUDENTS AND PRACTITIONERS. By W. BLAIR BELL, B.S., M.D.Lond., &c. Third edition. With 392 illustrations; pp. xv + 660. Price 38s. net. London: Baillière, Tindall and Cox, 1919.

Dr. Blair Bell's book has reached its third edition, a fact which shows that it ministers to a real need of medical practitioners and students. The arrangement of the contents of the book are unusual and have been criticized, but there is much to be said for the convenience of considering gynaecological ailments from the pathological rather than from the regional standpoint. Chapter I deals with the evolution of the female generative organs and traces their evolution from the simple structure of the lamprey and running through the amphibia, reptilia, to the mammalia. The subject is interesting not only in itself but because it illustrates the morphology of the human organs. Chapter II is concerned with the development of the female genital organs. The importance of the subject is very great, as Dr. Blair Bell says: "The normal progress or development is of great importance, for only by a knowledge of it can we explain the malformations, and certain other pathological conditions, due to developmental defects, which we may meet in our clinical work." Accordingly we find a careful description of the gradually advancing normal development, together with the possible arrests and perversions; the whole is well illustrated by diagrams that are clear and so lettered as to be readily understood. In Chapter III we have the anatomy of the female genital organs, beginning with their naked-eye appearances and relations. The illustrations are drawn from various sources, as may best illustrate the text—Kelly, Cunningham, Cullen, Moritz, and other authors are thus quoted. The value to the student of good, clear, and well-lettered diagrams cannot be exaggerated. In Part II we find the physiology of the female genital organs, including the consideration of puberty, menstruation, reproduction, and the menopause. This portion of the book is short, and what we have given us in it makes us wish there were more. Part III deals with case-taking and the examination of the patient. Dr. Blair Bell cautions his readers not to "rush" their patients; haste is the enemy of accuracy and the destruction of that confidential relation that must exist between doctor and patient if real information is to be gained by the one and real benefit by the other—alas! how difficult it is to secure the time in which this desideratum can be attained. Part IV is devoted to derangements of the normal anatomical conditions; and we are led on through malformations, injuries, and malpositions to Part V, in which are described the disorders of puberty, menstruation, and conception. We are reminded of the various types of menstruation, of the various errors of menstruation, and of the causes of these peculiarities, excesses, and defects. One of the duties of the physician is to teach

women that each one has her own physical personal peculiarities, and that it is vain to expect accurate conformity to any supposed physiological standard. Under the disorders of conception we find a section on sterility, a much neglected and an important subject on which the profession and the public are in need of careful instruction based on experience. Abortion and extra-uterine conception receive brief notice, no doubt because they belong more rightfully to a treatise on obstetrics. Part VI is devoted to infective and parasitic diseases of the genital tract. As would be expected, the first infection described is that due to the gonococcus. There is a large field awaiting careful exploration in the infective and parasitic lesions of the female genitalia, and a rich reward will accrue to those practitioners who study and treat them with the care they demand. Part VII is devoted to the important subject of tumours, and naturally is relatively long. It deals with tumours of all kinds affecting each and all of the female genital organs—one cannot but feel the difficulty of dealing with this large and deeply important subject within the narrow limits necessarily assigned to it in a relatively small book in which much space is rightly devoted to other branches of gynecology. Part IX deals with operative procedures, and is founded almost exclusively on the author's experience and methods. There is always an element of fascination in seeing how another surgeon works and how he meets the difficulties to which we all are liable. The beauty of the illustrations and the clearness of the type enhance the pleasure of reading the book.

MIND AND ITS DISORDERS: A TEXT-BOOK FOR STUDENTS AND PRACTITIONERS OF MEDICINE.
By W. H. B. STODDART, M.D., F.R.C.P. Third edition. With illustrations; pp. xx
+ 580. Price 18s. London: H. K. Lewis and Co., 1919.

Dr. Stoddart's book is well known and mainly requires notice here because, in his recently published third edition, there is ample evidence of what the author states in his preface—i.e., that he has fundamentally changed his attitude towards mental disease, and from practical experience has become convinced of the truth of Freud's theories. Psycho-analytic doctrines and conceptions therefore are found, though the theoretical considerations of the materialistic school are by no means neglected. While the description of the various maladies has been altered but little, there has been an endeavour to indicate the psychical mechanisms underlying them as far as possible without entering into great detail. Some chapters have been entirely rewritten and others enlarged. The chapters on normal psychology and the psychology of the insane are naturally added to, especially in relation to memory, unconscious association, emotion and action; the sexual and herd instincts; dreams; delusions and hallucinations. As in the second edition, the task of expounding the principles of psycho-analysis within the scope of ten pages is attempted. It is curious to note that in discussing the causation of insanity, notwithstanding his pronounced Freudian views, Dr. Stoddart makes so little mention of mental conflict as the basic factor in the etiology of the functional psychoses. We are surprised to hear that neurasthenia is always due to partially or completely repressed auto-eroticism, that the renunciation of masturbation is largely causative, and that psycho-analysis is its only cure. It was thought that the cessation of this habit tended towards the production of anxiety neurosis (upon which a new chapter is added). At any rate, if the mechanism is purely psychical, why is neurasthenia not brought under the heading of the psychoneuroses? Exophthalmic goitre is now classified under the neuroses, certainly not without good grounds, though perhaps it is anticipating too much to state that the disease is curable by psycho-analysis. In dealing with the psychoses it is noted that the classification has been completely re-modelled, but the old conception of anergic stupor is still retained as though it were a disease entity instead of only a symptom. The paraphrenia of Kraepelin is accorded a special chapter, and the results of recent investigations in the treatment of general paralysis have been added. The work is certainly an excellent up-to-date text-book. We might take this opportunity of suggesting that normal psychology should not form part of a psychiatric text-book and that the preliminary pages devoted to it can never be sufficient groundwork for the student of the abnormal. Psychology must previously be studied more extensively elsewhere.

SCIENCE AND LIFE. By FREDERICK SODDY, M.A., F.R.S. Pp. xii + 229. Price 10s. 6d. net. London: John Murray, 1920.

This volume is a collection of essays and addresses, some of them previously published, written or delivered between 1915 and 1919 while the author was a professor at Aberdeen; in addition an appendix contains some articles and reports bearing on definite charges made by the author as to the financial treatment of science by the Carnegie Trustees for the Universities of Scotland and the University of Aberdeen. His contention is that the funds of the trust are not in general applied to the purposes for which they were intended, but are used for general University needs and to provide buildings and endowments for Art subjects, instead of the promotion of scientific study and research. In his presidential address to the Aberdeen Scientific Society on November 3, 1916, on "The Future of Science, and what Bars the Way," he brings a forcible indictment against the older Universities, where a culture that reached its zenith before the birth of Christ still struggles to retain its complete ascendancy over the human mind and by opposing science acts as a clog to national reconstruction. In an address on some of the relations between "Science and the State," he points out that scientific research must not be regarded as a hobby or part-time occupation of the leisure hours of the busy teacher but as a serious business distinct from teaching; there should be research professorships, a need to which further reference is made in an article "To the new Launch," contributed to the first number of *The Crucible*, a magazine started by the science students of Aberdeen. There are several articles on chemistry, on radium and allied subjects, and special attention may be directed to the lecture before the London Chemical Society on "The conception of the Chemical Element as enlarged by the study of Radio-active change."

THE MICROSCOPIC ANATOMY OF THE TEETH. By J. HOWARD MUMMERY, D.Sc.Penn., M.R.C.S., L.D.S.Eng. With 243 figures in text; pp. viii + 382. Price 25s. London: Henry Frowde, Hodder and Stoughton, 1919.

Since the days of John Hunter and Sir John Tomes many histologists have contributed to our knowledge of this fascinating subject. The author of the present volume has finally summed up this knowledge and with the addition of his profound original work has reached a high degree which he modestly attributes to "modern perfected methods" but the work displays throughout the true, scientific spirit and marvellously accurate methods. Reviewing the evolution of teeth, he passes to a complete chapter on the development of mammalian teeth. The chapter on enamel, "one of the most difficult substances for microscopical examination," demonstrates the painstaking methods employed. The arching of the enamel prisms and the grooves into which they fit, is illustrated by many slides and diagrams, most of them original. This is specially shown in the teeth of the elephant. Plate III has several diagrams of teased enamel showing that "these prisms have a concavo-convex connexion and are deeply grooved posteriorly." It seems more practical to consider the dental pulp, the formative organ of the dentine, before the dentine itself, which is the order chosen by the author. A diagram on p. 221 illustrates the author's view of "the probability that both sensory and trophic nerves are distributed to the pulp and dentine." It is said also that recent researches appear to demonstrate that a lymphatic system is present in the dental pulp. Referring to Black's analyses of dentine, the author says that "although the amount of salts in the dentine may be approximately the same, the manner in which they are bound together in the dental tissue may vary considerably." The classification of Sir Chas. Tomes is that preferred in this work, viz., orthodentine, plicidentine, vasodentine, osteodentine. The minute anatomy of these is amply illustrated from the author's own preparations. On the calcification of dentine, the view is held by the author and others "that the cells of the pulp secrete a material which calcifies, they themselves not entering into the calcification of the substance." In a chapter on cement it is stated "that absorption of the temporary teeth begins in the cement and is not due to pressure from beneath." The chapter on the periodontal membrane shows that "the rich supply of blood-vessels and nerves to the membrane would fully account for its great sensibility in inflammatory conditions." The original work on the tooth follicle is perhaps the most fascinating in the book. The much discussed theories of Nasmyth's membrane are reviewed, but it is shown that "the

forces which govern the process of eruption are still but imperfectly understood." Such are but a few of the salient points in a work which demands careful study. It will be valued by biologists and comparative anatomists as well as by dental students old and young who desire to prove their position or build on a sure foundation.

PRACTICAL HISTOLOGY. By J. N. LANGLEY, Sc.D., LL.D., F.R.S. Third edition. With illustrations; pp. viii + 320. Price 10s. 6d. net. Cambridge: W. Heffer and Sons, 1920.

The general plan of this handy book is the same as that adopted in former editions, the essential part of it being printed in large type and this representing in general the course of practical histology for elementary students in Cambridge; whereas many useful notes and the appendix are printed in smaller type, these being intended for advanced students and to aid assistants in preparing demonstration specimens. In the general course some changes have been made to meet small difficulties which the experience of the classroom has shown to be felt by students, and in order to bring the description of what is to be seen in the specimens in accord with present nomenclature. Important additions have been made in the appendix, particularly with regard to the central nervous system. Thus a brief but quite sufficient description is given of the Cajal and Bielschowsky methods as well as of some of their recent modifications for neurofibrils, of Cajal's gold chloride and Rio-Hortega's carbonate of silver methods for neuroglia, of Rio-Hortega's modifications of Achucarro's tannin methods, &c. This renders Langley's work a practical book of consultation, which every physiological and histological laboratory ought to possess.

THE PHILOSOPHY OF CONFLICT, AND OTHER ESSAYS IN WARTIME. Second Series. By HAVELOCK ELLIS. Pp. 299. Price 6s. 6d. net. London: Constable and Co., Ltd., 1919.

This is a series of essays on various subjects, most of them unconnected with war. The title essay, "The Philosophy of Conflict," emphasizes the part played by struggle in the upward course of civilization altogether apart from war. "The world is cemented with blood and sweat; without pain and fortitude—that is to say without struggle and conflict—there would have been no world at all." It is the toils and struggles of civilization which create the spirit of heroism; war merely gives it scope, a fruitless scope which does not advance human progress. There is no place to-day either for the pacifist or the militarist, since both are under the delusion that, with the ending of war, struggle would vanish from the earth. Other essays are on "Eugenics in Relation to the War," "Birth Control and Eugenics," and "War and the Sex Problem." Biography is represented by essays on Luther, Herbert Spencer, Rodo, and Cowley. Perhaps of most interest to medical men will be the essay "Psycho-analysis in Relation to Sex," in which the author expresses his high opinion of the work of Freud.

AN INTRODUCTION TO CHILD PSYCHOLOGY. By CHARLES W. WADDLE, Ph.D., Department of Psychology and Education in the Los Angeles State Normal School. Pp. xvi + 317. Price 6s. net. London: George C. Harrap and Co., 1919.

A small book on a very interesting and important subject. All that pertains to the child is a portion of the subject which engrosses the attention of all thinkers of the present day. The first chapter supplies us with an "historical background of the scientific study of children." It tells us, all too truly, how deep has been the guilt of the human race in all ages and in all races towards little children. The indictment is painful but unmistakably just. This is followed by a description of several methods of child study, including the well-known "intelligence" tests and Binet-Simon method. The third chapter goes somewhat carefully into the application of the principle of evolution to the study of child life—including a consideration of Darwin's theory—and the view that the ovum, the embryo, and the foetus recapitulate in brief—but with inversions and omissions—the gradual development from the amoeba to the primate. The author does not think this bears pressing but feels that

there is more in the post-natal development of the individual which recapitulates the moral and mental history of the race. Mr. Waddle lays much stress on the influence of heredity. It is of course true that heredity is a great factor but surely we may hope that mentally and morally environment is the more powerful. The latter part of the book deals with the more novel and interesting subjects of the peculiar linguistic development of children. First is considered the manner in which speech commences in children and later the indications of degrees of intelligence and normal development afforded by the age at which the function is fully developed. In Chapter VIII is considered the subject of children's drawings—nearly all children enjoy drawing and revel in colouring—but few of these early blossoms mature and “set fruit.” Mr. Waddle says: “Surely an activity which has played such a rôle in the life of our primitive forebears ought to fulfil its promise of tremendous value as a culture medium for children.” With regard to the moral nature of children and their delinquencies—these delinquencies are, it is remarked, largely dependent on feeble-mindedness—surely a strong argument in favour of continuing guardianship and supervision and not of sending the feeble-minded out into the world to work ill to themselves and their neighbours and to procreate an increasing number of similarly afflicted individuals. A very comprehensive bibliography, a glossary, and test questions are provided for the use of students.

ESSENTIALS OF SURGERY: A TEXT-BOOK FOR STUDENT AND GRADUATE NURSES, AND FOR THOSE INTERESTED IN THE CARE OF THE SICK. By ARCHIBALD LEETE McDONALD. M.D. With 46 illustrations; pp. ix + 265. Price 8s. 6d. net. Philadelphia and London: J. B. Lippincott Co., 1919.

The book opens with an account of the principal varieties of pathogenic bacteria, their distribution in the body, and the means of destroying them under certain circumstances. Their portals of entry are described and the means whereby the body is able to defend itself against their invasion. Chapter III elaborates the description of various forms of bacilli and cocci and sketches the pathological changes they may produce and the line of treatment to be adopted in some surgical infections. Chapter IV is devoted to the subject of tumours, or new growths—but is limited to eight pages, including illustrations. Indeed the whole book is rather of the nature of an “appetizer,” and will probably stimulate the nurse's desire to know more of the subjects touched on by the author. In the fifth chapter are brief statements as to wounds, hæmorrhage, surgical operations and anaesthesia—a formidable collection of subjects for one chapter. Under the heading of surgical operations are considered contra-indications, the preparation of the patient, after-care and post-operative complications. Here, as is very fitting, we have instructions as to “positions” and various devices to promote the comfort and safety of the patient. Chapter VI, on bones and articulations, gives us a sketch of the structure of bones and of the infections, diseases and accidents to which they are liable. A brief account of vascular and nervous symptoms follows in Chapter VII and the remainder of the book is a succinct, but all too brief, résumé of the anatomy, accidents, and surgical diseases, of most of the regions of the body. To the book proper there is added a useful glossary of some of the most frequently used surgical expressions.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(VOL. XIII, No. 7, MAY, 1920).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—Ed.]

EMPLOYMENT PSYCHOLOGY: THE APPLICATION OF SCIENTIFIC METHODS TO THE SELECTION, TRAINING AND GRADING OF EMPLOYEES. By HENRY C. LINK, Ph.D. Pp. vii + 440. Price \$2.50. New York: The Macmillan Company, 1919.

The application of scientific methods to the selection, training and grading of employees in industrial processes has only recently received attention, but the results already obtained are sufficient to prove the value of such procedure. In this book Dr. Link describes in detail the psychological tests which can be used in the process of selecting employees. These tests enable the workers to be classified, and each one set to that form of occupation for which he is best suited. A scientific selection replaces the previous more or less haphazard procedure, and much of the time wasted before it is realized that a person is unsuitable for his employment is saved. The book does not contain much of purely medical interest, but should be of value to employers and students of psychology.

RADIO-DIAGNOSIS OF PLEURO-PULMONARY AFFECTIONS. By F. BARJON. Translated by JAMES A. HONEIJ, M.D. With plates; pp. xix + 189. Price 10s. 6d. net. New-haven: Yale University Press; London: Humphrey Milford, 1918.

Published under the auspices of the Yale School of Medicine, Professor J. A. Honeij has rendered good service to the cause of radiology by making the work of M. F. Barjon more readily accessible to English-speaking physicians. The five principal sections of this book deal with methods of examination and technique, the radiological study of the pleurae, bronchi and lungs, and penetrating wounds of the thorax by war projectiles. The fifty-two radio-photographs depict the conditions described in the text with accuracy and clearness. In the section on pulmonary tuberculosis, the author states that the disease, which may often seem "slight and incipient in a patient, will be proved by radiosopic examination to be more extensive and secondary to a previous attack." If the stethoscopic signs point to one apex being possibly affected, but the radiograph shows a loss of transparency upon the opposite side, the result may be considered doubtful. If, however, the stethoscopic and radiographic signs agree, the probabilities become certainties. The author does not claim that radiological examination will eliminate the difficulty that attaches to the early diagnosis of pulmonary tuberculosis, but its employment should never be neglected in doubtful cases. In establishing the indications and contra-indications for surgical treatment of the lungs the

X-rays have proved most valuable. If the radiologist ought to be a physician—and he should be according to M. Barjon—it is desirable also that the physician should interest himself to a larger extent in radiology. The bond between physician and specialist might well be drawn closer in the interests of all concerned. The book is well got up and will be found useful to radiologists and practitioners alike.

NOTES ON GALVANISM AND FARADISM. By E. M. MAGILL, M.B., B.S.Lond., D.P.H., R.C.S.I.Hon. Second edition, with 67 illustrations; pp. xvi + 224. Price 6s. net. London: H. K. Lewis, 1919.

This, the second edition of Dr. Magill's well-known little book, has been revised and additions have been made to the text. The book is intended primarily for the use of masseuses preparing for the examinations in medical electricity held by the Incorporated Society of Trained Masseuses, but it will be found very serviceable to medical men who do not propose to devote attention to the more complicated forms of apparatus. Dr. Magill begins with an introductory chapter in which she considers in outline the need of electricity. Succeeding chapters deal with static electricity in medical work, the galvanic battery, ionic medication, faradism, the dynamo, electric baths, and radiant heat and light. The book is succinctly written, and is quite sufficient for its purpose. The illustrations are clear and help the descriptions of apparatus, &c., in the text. A series of examination papers is included in the appendix.

MOSES: THE FOUNDER OF PREVENTIVE MEDICINE. By PERCIVAL WOOD, M.R.C.S., L.R.C.P., Captain R.A.M.C. Pp. xi + 116. Price 4s. net. London: S.P.C.K., 1920.

In this book the author seeks to show that Moses, the "superman" of his age, was the originator of the principal laws of sanitation that hold good at the present day. His was the master-mind that impressed upon the ancient Israelites the necessity of attention to personal hygiene, and for the proper disposal of camp refuse. The lesson to be learned from the ten plagues of Egypt is that "bad sanitation is invariably followed by disease and death." The question of food control occupied a considerable part of the Mosaic code, but his legislation on diet deals with suitability only. In the matter of the control of infectious disease our present system, though, of course, "expanded, improved in detail, in technique, in organization," remains in essentials, "precisely the same as that originally established by Moses thirty centuries ago." In his concluding chapter the author thinks that it is most probable that Moses did not "fully understand the hygienic importance of his own work," nevertheless, even his occasional failures cannot "hinder us from regarding him as the founder of preventive medicine."

THE MEASUREMENT OF INTELLIGENCE: AN EXPLANATION OF AND A COMPLETE GUIDE FOR THE USE OF THE STANFORD REVISION AND EXTENSION OF THE BINET-SIMON INTELLIGENCE SCALE. By LEWIS M. TERMAN. With an Introduction by Professor J. J. FINDLAY, M.A., M.Ed. With Test Material for the Measurement of Intelligence, by LEWIS M. TERMAN. Pp. xviii + 362. Price 6s., 3s. 6d. London: George G. Harrap, 1919.

Not being so preoccupied during its earlier years with matters arising out of the war as were the people of this country Americans were able to devote themselves to other questions, including that of tests for intelligence. As a result several works on the Binet-Simon system of testing are now coming to hand, and this book, at any rate, is worth reading. What part in the conduct of life is played by the "intelligence" which can be defined in terms of the Binet-Simon scale is doubtful and the weakness of mankind for rushing after some new thing has probably caused a quite artificial value to be placed on the tests, but they may, nevertheless, serve a useful purpose. They supply the inexperienced examiner, who does not know where to begin, with a means of learning something about his patient and they enable him to set out the fruits of his inquiry in a way which makes them comparable with other people's results and intelligible to the ordinary citizen. With the co-operation of former

students at the Leland Stanford Junior University, Professor Terman has carried out a thorough revision of the tests. By the modification and rearrangement of some and the introduction of others he has added considerably to the value of the scheme, more particularly in regard to its application to the slighter degrees of mental deficiency and to older children and adults, in which respects the older scheme left a good deal to be desired. The first section of the book deals with various aspects of the problem of "intelligence." Professor Terman considers, with some show of reason, that the use of his scheme helps the teacher to avoid the pitfalls in which exponents of the older methods were liable to be entrapped—those of over-estimating the intelligence of retarded children and under-estimating that of superior children. Recognizing the importance of standardization he devotes the second part of his work to a detailed description of the application of the tests to individuals of the ages of 3 to 10, 12 and 14 years, and to the "average" and the "superior" adult. The test materials, including the "Record Booklet," which are designed to accompany the book, greatly facilitate its employment. It would be easy to quibble over various tests but no useful purpose would be served by doing so. The utility of the scheme will be determined by the extent of its adoption, not by the merits of particular procedures. One slight emendation may, however, be suggested. In mentally reversing the hands of a clock there seems no reason why a reading capable of giving an intelligible result should not be taken. At ten minutes past eight, one of the selected times, the hands are in a position which on reversal gives rise to a chronometric absurdity which would not be nearly so glaring if the time chosen had been eight minutes past.

LA RÉACTION DE BORDET-WASSERMANN POUR LE SÉRO-DIAGNOSTIC DE LA SYPHILIS: ÉTUDE THÉORIQUE ET PRATIQUE—MÉTHODES RECOMMANDÉES, INTERPRÉTATION DES RÉSULTATS. Par A.-D. RONCHÈSE. Préface par M. le Professor FERNAND WIDAL. Pp. xvi + 211. Price 10f. Paris: Masson et Cie, 1919.

In taking up a book on the Wassermann reaction to-day we immediately turn to see if the writer has thrown any light upon its *rationale*. All pathologists are now familiar with the technique and the various modifications which have from time to time been advocated. As it becomes practically impossible to interpret the results of a reaction which is not understood and as clinicians are coming round more and more to the view that the interpretations which have been made in the past are fallacious, it is disappointing to find that the *modus operandi* of the reaction has not been explained. The technique and modifications are very fully described and the usual advice as to how the test should be read and applied to the clinical aspect has been given. The author is fully impressed by the value of the reaction and considers the time to be not far distant when an antigen will be prepared which will make the reaction actually specific.

SYPHILIS IN CHILDHOOD. By LEONARD FINDLAY, M.D., D.Sc., F.R.F.P.S.G. With 37 illustrations; pp. xii + 154. Price 8s. 6d. net. London: Henry Frowde, Hodder and Stoughton, 1919.

Considering how few are the works on congenital syphilis and that the disease is being modified by the present-day treatment, we welcome a book, which is based upon clinical experience. The author dwells at some length on the mode of infection of the child but has omitted the effect the chorionic ferments have in preventing the disease manifesting itself in the mother. Maternal infection must obviously be more common than pure paternal infection since every woman who has given birth to a syphilitic child is *ipso facto* herself infected. Being syphilitic she is liable to convey the disease to each succeeding offspring, an event, which can be avoided by treatment. A little more stress might have been laid on the treatment of the mothers and on the suckling of the infants by the mothers who had been so treated. It would also be interesting to learn the author's views as to whether the children born of syphilitic mothers, who have been properly treated, are syphilitic or not, and what happens to both these and to children who were undoubtedly syphilitic but who had been restored to health by the treatment. These are the main points, as most are familiar with the ordinary signs and symptoms of congenital syphilis. The author has included an excellent series of illustrations and interest has been added by the forty-seven case histories.

MILITARY PSYCHIATRY IN PEACE AND WAR. By C. STANFORD READ, M.D.Lond. With 2 Charts; pp. vii + 168. Price 10s. 6d. net. London: H. K. Lewis and Co., 1920.

Dr. Read had an extensive experience of mental disease before the war and was thoroughly up to date in his knowledge, being an avowed Freudian. Moreover, he had the good fortune to be given war work to which he was suited and was not utilized as a round peg in a square hole. He visited all the mental war hospitals in France and England and ultimately had charge of the mental block at Netley Hospital. From this valuable experience he has given us this present study of "Military Psychiatry in Peace and War"—mostly, of course, in war. After an interesting study of the psychology of the soldier from the recruiting office to the firing line, he compares military psychiatry before the war with that experienced during the war. This amounts to a comparison of insanity in the old standing Army with that in what was practically the whole young adult male population of the country, for these all became soldiers. In a chapter on "statistical facts and figures" a chart is given of the rise and fall of mental cases during the course of the war with an explanation of the rises and falls. Then follow chapters on dementia præcox, paranoid states, confusional states, mental deficiency, epilepsy and so forth, in their relation to military service, a few typical cases of each mental disorder being given. The recruiting system comes in for some well-deserved criticism.

DIABETIC DIETING AND COOKERY. By P. J. CAMMIDGE, M.D.Lond. Pp. viii + 222. Price 10s. 6d. net. London: University of London Press, Ltd., 1920.

The author has put together a very useful series of instructions to enable diabetic patients to have a variety of suitable and palatable foods and to indicate to the medical practitioner the lines on which the diet should be regulated. The book commences with a discussion of the necessary dietetic treatment which follows on the lines recommended by Allen with periodical starvation days. He discusses in detail the necessary restrictions in diet in order to get the urine sugar-free, and how liberty may be allowed if the analysis of the urine and blood show that it is tolerated. He insists on the necessity of restricting, in most cases, not only the carbohydrates but also the fats and proteids. Great stress is laid on the importance of watching the amount of sugar in the blood, which should fall to 0.06 to 0.08 per cent, in the morning, and even after a carbohydrate meal should not exceed 0.14 to 0.15 per cent. For accurate sugar testing he recommends a copper sulphate and iodine solution with carbonate of soda, and he titrates with sodium thiosulphate, but for general use he recommends Benedict's solution, which is more delicate than Fehling's. The estimation of sugar in the blood can be made with only 0.2 c.c. of blood, and the colorimetric test with sodium picrate-picric acid is recommended; this does not occupy much time especially when the solutions are ready for use. One of the most practical suggestions is to take standard rations of 20 grm. for protein, 4 grm. for carbohydrates and 5 grm. for fats, and to classify the various articles of diet under these headings. Each heading is subdivided into three or four groups so that an average serving of all the articles in any one group contain the same proportion of a ration and are interchangeable in use. By this means when the doctor has determined the suitable number of each of the rations the patient is at liberty to select his foods from the lists accordingly.

PULMONARY TUBERCULOSIS. By MAURICE FISHBERG, M.D. Second edition, revised and enlarged. With 25 plates and 100 other illustrations; pp. xli + 744. Price 27s. 6d. Philadelphia and New York: Lea and Febiger, 1919.

The new edition of Fishberg's well-known "Pulmonary Tuberculosis" gives a sufficiently comprehensive summary of modern theory and practice, presented in a singularly clear and sane manner. Neither too detailed nor too diffuse it yet affords a continued interest such as no mere compilation could ever do and is all the more valuable in that it comes from a physician of great practical experience. The theoretical basis of the book may be thus summarized: None of the known channels of infection can of itself adequately account for tuberculosis and there is something to be said for Römer's suggestion that there is probably

some other mode of transmission with which we are as yet unacquainted. Infection alone will not cause phthisis and an emphatic distinction must be made between tuberculous infection and tuberculous disease. The fact that 80 per cent. of children are infected by the age of 14 and that in them the disease is largely a bacteremia, whereas 95 per cent. of tuberculosis in adults is a local chronic disease of the lungs, is proof of the operation of other factors in phthisis-genesis. These factors—predisposition in a word—are complex, but in individual cases may consist in some natural power of resistance, massiveness of the primary dose, hereditary influences, constitutional biochemical or serological derangements of the body or of the blood, or local anatomical peculiarities. In the result phthisis is a manifestation of immunity against tuberculosis which has been acquired in the very great majority of instances in early childhood. Tuberculous infection can only occur once and phthisis evolves only in those who are predisposed to the disease. If this immunity fail then a metastatic (autogenous) reinfection takes place, not an acute miliary tuberculosis, but a local lesion, i.e., phthisis in the lung, the most vulnerable organ of the body. Fishberg discards the usual classifications of the disease and it is something of a novelty to find no mention even of such an old friend as "Turban-Gerhardt," nor does it appear that the "Astor" has yet penetrated to the ancestral home. The chapter on "Abortive Tuberculosis" should act as a wholesome corrective to pessimism, while the whole discussion on the types of the disease described by the author will well repay study. Sanatorium treatment comes in for some very plain speaking, the 5 or 10 per cent. of alleged cures being no more than is obtained by home treatment, while the cost is unjustifiable when one considers that at a moderate estimate 33 per cent. of the abacillary cases in a sanatorium are probably non-tuberculous. So radically does Fishberg differ from the accepted English creed in this respect that he would scrap existing sanatoria as such and convert them into hospitals "which admit patients on short notice, keep them for a few weeks, a month or two, until they regain their strength, and are fit for treatment in the clinics." Nor is tuberculin of more use in treatment than as a form of psycho-therapy, its efficacy depending on the intelligence of the patient and his appreciation of the theoretical aspects of the disease derived from a perusal of popular literature on the subject. A carefully written and detailed chapter on the theory and technique of artificial pneumothorax adds much to the usefulness of the book. The illustrations are excellent and well chosen and the X-ray photographs clearly reproduced in miniature. Mistakes in the text are more numerous than they ought to be and the index of authors requires drastic revision.

FUNCTIONAL NERVE DISEASE: AN EPITOME OF WAR EXPERIENCE FOR THE PRACTITIONER.

Edited by H. CRICHTON MILLER, M.A., M.D. Pp. xi + 208. Price 8s. 6d. net.
London: Henry Frowde, Hodder and Stoughton, 1920.

This book is intended to present to the practitioner a concise picture of the war neuroses, and the various parts of the subject, both from the theoretical and therapeutic standpoints, are dealt with by authors who have had special neurological experience in the army during the late war. Physical ætiology is taken in hand by the editor somewhat inadequately in a few pages. Dr. Riddoch, in his chapter on "Differential Diagnosis" mainly speaks of the differentiation of the neuroses and organic disease, but we fear that inexperienced physicians would find this a poor guide. Physical treatment is naturally of small importance but is sufficiently indicated by Dr. Bramwell. The mechanism of hysteria is described by Mr. Prideaux from a psycho-analytic point of view, and Captain Hadfield writes on treatment by suggestion and persuasion. Hypno-analysis does not prove quite so simple as the text asks us to believe and we greatly doubt that "telling a patient that he will not leave the room till he has divulged his repression nearly always succeeds." The explanations of repression and suppression as given by Dr. Rivers are extremely debatable. By far the best chapters in the book are those by Dr. Nicoll who deals interestingly, though briefly, with regression and psycho-analysis. The origin of many war neuroses in a "mother complex" is insisted on by Dr. Miller but there was hardly need to quote twenty-eight cases to illustrate the same point. The question of individual and institutional management follows. In conclusion Dr. McDougall summarizes the previous pages, and herein points out that the teaching of the book is not Freudian (?) though many of the authors have made use of conceptions which we owe to Freud.

ANÆSTHESIA IN DENTAL SURGERY. By THOMAS D. LUKE, M.D., F.R.C.S.Ed., and J. STUART ROSS, M.B., F.R.C.S.Ed. Fourth edition. With illustrations; pp. xii + 255. Price 8s. 6d. net. London: William Heinemann, 1919.

The authors give a general review of the use of nitrous oxide alone and when diluted with oxygen; ethyl chloride, ether and chloroform, and describe the apparatus employed and requisite technique. The design of the book is to convey the information in such a way as may render it clear to dentists. In the chapter on chloroform the open method is advocated and the arguments for and against the employment of this anæsthetic in dental surgery are weighed. Ether is stated to be less safe than ethyl chloride, the latter being extolled for use when nitrous oxide is unavailable. Local analgesia is restricted to sub-mucous injection, conduction analgesia not being considered. Cocaine injection is considered justifiable in dentistry and although itself a vaso-constrictor is recommended in association with adrenalin. Stovaine is also regarded favourably but its tendency to cause local necrobiosis is not adverted to. The relative safety of the general anæsthetics is carefully gone into, and lists of fatalities are given. The legal position of dentists in the matter of the use of anæsthetics is discussed. The history of anæsthesia, the choice of the anæsthetic and the common accidents under anæsthetics with the appropriate treatment are also considered.

CONVEYANCE AND DISTRIBUTION OF WATER FOR WATER SUPPLY, AQUEDUCTS, PIPE-LINES AND DISTRIBUTING SYSTEMS: A PRACTICAL TREATISE FOR WATER-WORKS ENGINEERS AND SUPERINTENDENTS. By EDWARD WEGMANN, C.E. With 367 illustrations, and 8 plates; pp. vi + 663. Price 26s. net. London: Constable and Co., 1918.

Entirely an engineering book and contains little of interest to medical men even if engaged in the preventive side of medicine. It deals exhaustively with such subjects as water consumption, loss of hydraulic gradient in aqueducts, pipes, &c., types of water-pipe with specifications and details for calculating them, types of joints and their relative efficiency, submerged and flexible pipes, valves, hydrants, aqueducts, water-meters. A useful appendix of specifications for piping and castings is appended. The examples are mostly drawn from American practice but some British examples are included.

MANUAL OF SURGERY (ROSE AND CARLESS) FOR STUDENTS AND PRACTITIONERS. By ALBERT CARLESS, C.B.E., M.B., M.S.Lond., F.R.C.S. Tenth edition. With 33 plates; pp. xii + 1562. Price 30s. net. London: Baillière, Tindall and Cox, 1920.

The increased size and price of this new edition are the result of the addition of new matter under the headings of: (1) The Treatment of Infected Wounds; (2) The Treatment of Compound Fractures; (3) Orthopædic Surgery, and (4) An Appendix on Military Surgery. The author expresses the hope that the inclusion of a large part of these new elements is temporary and that with the passing of the factors which have recently emphasized their importance, they will be eliminated without lessening the usefulness of the text-book. The Military Appendix, above mentioned, deals with war wounds and their treatment in general, followed by a more detailed consideration of wounds of the knee-joint and of the abdominal viscera. The number of illustrations has been considerably increased and the reproductions of radiographs have been collected to form a series of illustrations on art paper at the end of the volume, in place of their former scattered position throughout the text. Apart from these changes, the new edition follows closely on the well-known lines of its predecessors.

BACTERIOLOGY AND MYCOLOGY OF FOODS. By FRED WILBUR TANNER, M.S., Ph.D. With illustrations; pp. vi + 592. Price 28s. New York and London: John Wiley and Sons, 1919.

The book supplies in detail information, instruction in methods and explanations of apparatus necessary for those who propose to qualify themselves for food control, who seek to become food chemists or students of household science. The subject is at once wide

and complicated, but the method adopted in the volume removes difficulties and renders complexity simple. Although essentially a matter for experts, all students equipped with a working knowledge of chemistry can master the bacteriology and mycology of foods. The writer describes bacteriological apparatus and the technique of collection, growth, staining and recognition of bacteria. The methods and principles of sterilization and disinfection are studied from the point of view of practice. Foods and their classification, with their liability to contamination, come under review. Mycology—yeasts, moulds, fungi—introduces the subject of bread and its examination. We are taught the essentials about the flora of the intestines, and the physiological and pathological bacteria of the whole alimentary tract are classified and described. The practical aspects and methods of searching for bacteria in the air, in water and in such foods as milk, milk products, eggs and egg products, meat and its products—e.g., extracts, are all carefully gone into and fully described. Indeed the practical examination of foods and the detection of unfitness occupy many sections and these, with those which deal with water hygiene, form an important part of the work. Food preservation, so serious a problem of civilized life, is studied, and the methods of detecting defects in canned foods, tomato products, with the cognate theme of food poisoning and ptomaines, are added. The writer glances more briefly, although aptly, at the methods most valuable in investigating epidemics. Appendices containing useful technical memorabilia are added.

VICIOUS CIRCLES IN DISEASE. By JAMIESON B. HURRY, M.A., M.D. Cantab. Third Edition. With illustrations; pp. xx + 377. Price 15s. net. London: J. and A. Churchill, 1919.

The interrelation of the functional activities of the organs of the body makes for physiological unity but also for reaction in disease, so that morbid departures cannot be regarded as entities, since, if one member is sick all the members suffer. Bichat taught that men died from affections of the heart, or of the lungs, or of the brain. Modern notions of pathology insist that no such differentiation between the organic systems is possible. In this volume are set forth the various facts which prove the truth of the above statement. Disease engendered in the heart may have its starting point elsewhere and its effects spread so that morbid processes invade the lungs, the kidneys, the central nervous system, and so on. In their turn such departures from the normal react upon the heart and circulation and so increase the morbus cordis. By a consideration of each system in order and the interrelation of pathological happenings with their consequences in remote systems and organs, the writer reveals how a vicious circle is established and by its revolution superinduces a series of reacting lesions, and these, unless the vicious circle is broken, end in systemic death. Although the establishment of a vicious circle in disease is commonly spoken of in medical literature the systematic study of such vicious circles has been neglected. This work undertakes to correct the omission and does so with much elaboration and meticulous care. The writer extends his view beyond the human organism—although that remains his chief preoccupation—and discusses the vicious circle of disease among the lower animals and in the vegetable kingdom. Important sections deal with ways in which the vicious circle may be broken, by the *vis medicatrix Nature*, by artifex whether therapeutic or surgical, and give the reasons for treatment by rational methods. An exhaustive index renders reference to the various sections of the book at once easy and satisfactory.

OCCUPATIONAL AFFECTIONS OF THE SKIN; THEIR PREVENTION AND TREATMENT; WITH AN ACCOUNT OF THE TRADE PROCESSES AND AGENTS WHICH GIVE RISE TO THEM. By R. PROSSER WHITE, M.D. Ed., M.R.C.S. Lond. Second Edition. With 24 plates; pp. xiv + 360. Price 25s. net. London: H. K. Lewis, 1920.

This book has grown considerably since the first edition. It contains 360 pages instead of 165 and is embellished with twenty-seven photographs instead of two. It also includes a terminal quatrain of verse and is much more expensive than it was in its youth. It contains a mine of information on all industrial diseases of the skin, and there is also a chapter on "Zoëtic Dermopathy," which means the cutaneous manifestations of microbic and fungoid

infections contracted by those who have to do with animals of various kinds, the parasites of sponges and rose thorns. Nor are war conditions omitted. Great industry has been displayed by the author in compiling this work, which covers ground of great importance. In addition to his own observations references will be found to practically all the papers bearing on the subject, collected from all sorts of different, oftentimes obscure, sources. It will be found valuable, not only by dermatologists, but by all those who deal with industrial diseases and their consequences.

PSYCHOLOGY FROM THE STANDPOINT OF A BEHAVIORIST. By JOHN B. WATSON, Professor of Psychology, the Johns Hopkins University. Pp. xii + 429. Price 10s. 6d. net. Philadelphia and London: J. B. Lippincott, 1919.

Though the term "behaviorist" would probably have made him writhe and he would have been surprised to find the study of behaviour as an index of mental processes described as "purely an American production," the late Charles Mercier would have been the proper person to review this book, for none could better have appreciated the attitude of a writer who defines psychology as "that division of natural science which takes human activity and conduct as its subject-matter." Nor would Mercier's expression of his views have been lacking in "pep." The author's method aims at being biological and a large part of the book is devoted to the anatomy and physiology of the nervous system and of the organs concerned in the reception of stimuli and the activities resulting from stimulation. It is probably this fact which enables him to "get along without" the terms "sensation, perception, attention, will, image and the like," of which, in his preface, he says "I frankly do not know what they mean." Situations which would make the use of such terms convenient can of course be evaded or talked round, but, after all, is there any special virtue in the pose of calling a spade an agricultural implement? Misgivings as to the author's competence to deal with biological problems may well be aroused by perusal of the short paragraph devoted to the recapitulation theory which he describes as "a rather persistent but nevertheless pernicious theory" which has grown up "under the influence of several non-biologically trained psychologists." Chapters are devoted to the emotions, instincts, habits and personality, and these sections of the book have their utility though there is nothing particularly novel about them. Some interesting accounts of observations on and experiments with children will add to the common stock of knowledge and it is not the fault of Professor Watson if the results obtained are largely negative. Perhaps the most valuable chapter is that on "The Organism at Work" in which modern applications of psychological methods are dealt with and in which there is a very necessary "caution on all efficiency experimentation."

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(Vol. XIII, No. 8, JUNE, 1920).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—ED.]

LA TENSION ARTERIELLE EN CLINIQUE, SA MESURE, SA VALEUR SÉMÉIOLOGIQUE. Par le Dr. L. GALLAVARDIN. Deuxième édition; avec 200 figures; pp. xii + 717. Price 30f. net. Paris: Masson et Cie, 1920.

The first edition of this work was published in 1910, and although the present volume is styled a second edition, it is so much larger that it is practically a new book. The first 230 pages are devoted to a consideration of the various methods of recording blood-pressure, and as a result of the author's extensive experience, he comes to the conclusion that the Riva-Rocci is the best method for recording the systolic or maximal, and the vibro-auscultatory for the diastolic or minimal pressure. He considers there should be a standard method for recording pressure and advises that the method adopted should always be stated, and the notation employed described in fractions in millimetres Hg. He insists on the importance of recording the residual systolic pressure. The full notation would therefore read: Tension (palpo-vibratory), 175-160/90, the first figures representing the systolic pressure including the residual, and the latter the diastolic. The physiological modifications are then considered in a section containing 20 pages, and 300 pages are devoted to pathological modifications. Hypertension, permanent and transitory, and hypotension on the same lines, receive complete consideration as well as modifications in various regions of the body. Those diseases which have not found a place in this part of the work are described in a chapter of 50 pages dealing with arterial tension in disease. A chapter of 50 pages on treatment ends this most excellent work which is one of the most authoritative pronouncements to be found in any language and is indispensable for anyone desirous of being acquainted with the subject with which it deals. The table of contents might with advantage be placed at the beginning and the index might be enlarged. We do not subscribe to the author's method of translating the titles of all the papers in the excellent bibliography to be found at the end of each chapter into his own language; it is also much easier for anyone desirous of looking up a reference to be given the year, volume, and page, rather than the year and date of the month.

ON GUNSHOT INJURIES TO THE BLOOD-VESSELS: FOUNDED ON EXPERIENCE GAINED IN FRANCE DURING THE GREAT WAR, 1914-1918. By GEORGE HENRY MAKINS, G.C.M.G., C.B. With 4 plates and 60 illustrations in text; pp. xii + 251. Price 21s. Bristol and London: John Wright and Sons, Ltd., 1919.

More than half this book is devoted to a study of wounds of individual vessels; to "documents," case-records, with the necessary elucidation, which will prove a storehouse of information for all future writers upon the subject. Many of the author's views were

already known from his previous papers, but here, and in the War Museum, are the material facts for everybody's consideration. It has long been supposed that injury to the intima, or inner coats of large vessels, probably played some part in the production of certain "idiopathic" aneurysms, and colour is lent to the view by the revelation of important results of trivial defects produced at a distance from the main vascular injury. The clear distinction of arterial hæmatomata brought about by studies of gunshot wounds in the Russo-Japanese war has been further illuminated by a description of the mode of formation of the sac therefrom. Greater exactitude is introduced into the relations of vessels entering into aneurysmal varices and allied lesions. Great attention is paid to the symptoms and signs of lesions of the blood-vessels; to the discrimination of the signs of hæmorrhage and of interference with peripheral circulation; to the effects upon the circulation as a whole; to the production of murmurs; and to the elucidation of the late effects of occlusion upon the vitality of the parts supplied. The respective shares of simple deprivation of freely-circulating blood and of disturbed trophic innervation, due either to the same cause acting upon the nerve trunks or upon associated injury to them by the original trauma, cannot yet be conclusively separated. The reasons for disappointment with the high promise of angiorrhaphy at the outset of the war—mainly sepsis—are disclosed and the hopeful state in which vascular-suture remained at the end, when better methods of controlling infection of wounds had been generalized, are clearly stated. Temporary re-establishment of the circulation is shown to have a distinct though restricted field. Whether from the clinical, the histological, the operative point of view, this book is not only of great interest, but what is more, it is transparently honest and intensely practical. That there may be no present opportunity of turning its conclusions to account on a great scale in no way detracts from the value of observations which have their bearing also upon everyday problems of the circulation.

AN INTRODUCTION TO THE THEORY OF STATISTICS. By G. UDNY YULE, C.B.E., M.A. Fifth edition. With 53 figures and diagrams; pp. xv + 398. Price 12s. 6d. net. London: Charles Griffin and Co., 1919.

It is not necessary to discuss Mr. Yule's theory of statistics in detail. It is now so well known and appreciated that the call for a fifth edition is not at all surprising. The chief change is the addition of two supplements by Mr. Greenwood, the first on the law of small chances and the second on tests of goodness of fit. Both of these subjects are somewhat difficult, but the treatment of them by Mr. Greenwood should be intelligible even to those who do not possess extensive mathematical knowledge. The literature has also been brought up to date and the list of the most important papers that have been published in the last few years should be of very considerable use.

ON FACIAL NEURALGIA AND ITS TREATMENT, WITH ESPECIAL REFERENCE TO THE SURGERY OF THE FIFTH NERVE AND THE GASSERIAN GANGLION. By J. HUTCHINSON, F.R.C.S. With 37 illustrations; pp. xiii + 216. Price 15s. London: John Bale, Sons and Danielsson, 1919.

This volume forms the second edition of the author's monograph, on the same subject, published many years ago, and includes an amplification of the Jacksonian Prize Essay, awarded him in 1915. The work incorporates his latest views and practice based upon further experience. The fact may be conceded that trigeminal neuralgia is one of the most distressing forms that a surgeon is called upon to treat, while the author admits that a successful operation for its relief—one which will effect a lasting cure—is probably the most delicate, difficult and arduous procedure throughout the domain of surgery. The subject from the operative point of view forms the major part of the volume, and the operative results are compared with the alternative method of obtaining relief by means of injections of alcohol. But while the reasons are given for the belief that this method is of great value, the author is of opinion that it will not displace the operation on the Gasserian ganglion as a permanent curative procedure. In support of this, cases are related in which temporary relief was obtained by injections of alcohol, and in which the ganglion operation was required for permanent cure. By means of the temporal route in operating, the flap of skin is made inside the

hairy scalp, so that the scar is subsequently concealed by the growth of the hair. The author describes the ganglion operation he performs in full and precise detail, insisting upon the importance of avoiding all injury to the ophthalmic division. In discussing the various theories which have been advanced, in accounting for epileptiform neuralgia—*tic douloureux*, he affirms that "there is not the smallest vestige of proof" that the disease depends upon a neuritis, spreading from an inflamed dental nerve to the Gasserian ganglion, and so to other branches of the fifth. Despite this statement his notes of cases record "as usual" the previous removal of teeth—with no good effect whatever. A complete bibliography of the subject is added at the end of the volume, from 1896 to 1914, included in three sections, followed by an index.

A MANUAL OF X-RAY TECHNIC. By ARTHUR CHRISTIE. Second edition; with 48 illustrations; pp. x + 152. Price 6s. net. Philadelphia and London: J. B. Lippincott Co., 1917.

This short manual, the first edition of which was published in 1913, was written with a view to the needs of the medical service of the United States Army, and of those physicians and surgeons in private practice who might want to do their own X-ray work for the purpose of diagnosis. In this, the second edition, the manual has been revised in accordance with the important improvements in apparatus, and the increased knowledge gained from experience during the past few years. In addition to some minor changes and additions made in this revised edition a description of the Coolidge tube and a chapter on X-ray therapeutics have been added, the chapter on gastro-intestinal examination has been re-written and newly illustrated, and the chapter on diseases and injuries of the bones has been made more complete. The terminology which has been adopted by the American Röntgen Ray Society is used throughout this book. For the benefit of those readers who are not conversant with it this terminology is explained in the preface. The type is clear and there is a good index.

THE PHYSIOLOGY OF VISION, WITH SPECIAL REFERENCE TO COLOUR BLINDNESS. By F. W. EDRIDGE-GREEN, C.B.E., M.D., F.R.C.S. Illustrated; pp. xii + 280. Price 12s. net. London: G. Bell and Sons, 1920.

Naturally, being a monograph, this book takes a wide view of the subject, and, at the same time, affords the author the opportunity of reiterating the conclusions, especially on colour vision, at which he has arrived, after a series of investigations prolonged over a period of thirty years. Based upon his book "Colour Blindness and Colour Vision," published in the International Scientific Series, in 1890, and upon the large number of communications which he has since contributed to various scientific societies and journals, such as the Royal Society, the Ophthalmological Society, the British Association, the *Journal of Physiology*, and many others, the volume forms a concise reproduction of the advancements with which the author's name is so widely identified. The book consists of thirty chapters; part of these deal mostly with the purely physiological aspects of vision, and the remainder with the questions concerned in colour vision, and the description of the tests associated with the detection of colour blindness. The final chapter discusses the objections to other theories of vision and colour vision formerly in vogue, with which the author's views are at variance. In this regard he critically applies his views to the Young-Helmholtz and Hering theories and shows that the latter do not explain the phenomena of colour vision in a satisfactory manner. The soundness of Dr. Edridge-Green's work seems to appeal for acceptance, inasmuch as in no instance has it ever been successfully controverted.

TUBERCULOSIS AND PUBLIC HEALTH. By H. HYSLOP THOMSON, M.D., D.P.H. Pp. xi + 104. Price 5s. London: Longmans, Green and Co., 1920.

In this little volume Dr. Thomson has done well to call attention to the study of the problem of tuberculosis in relation to public health. The more one studies tuberculosis in a broad and comprehensive spirit the more one is compelled to agree with the author when he says that it is intimately connected with the social and economic conditions of the people,

and that its death-rate constitutes a fairly accurate index of the health standard of the community. Academic and experimental knowledge of tuberculosis cannot help us very much to elucidate its complex problems. When the physician descends from the laboratory to the arena of life and sees face to face the conditions under which people live, their poverty and insanitation, their slums and overcrowding, their squalor and misery, their worry and anxiety, he comes to see the importance of the social aspect of tuberculosis rather than its specific nature. The universal prevalence of tuberculosis, and its commencement in childhood, rob a great deal of the value and significance of the infection theory. As to milk infection, on which Dr. Thomson lays such stress, one must remember that many children who drink tuberculous milk remain perfectly healthy, while in such countries as Japan, China, India, Siam, &c., where little or no milk is taken, and where tuberculous cattle are more or less absent, tuberculosis is widely and increasingly prevalent at the present day. The problems of tuberculosis are really social problems, hence their close connexion with public health; and the only sure means of eradicating the disease lie in making every effort to improve the social and economic condition of the people. Therefore all those schemes that aim at abolishing poverty, slums, insanitation, and in promoting better housing, village settlements, open-air schools, &c., many of which the author briefly describes in this volume, are measures directed not only towards the treatment but towards the prevention of the disease.

THE SEXUAL DISABILITIES OF MAN AND THEIR TREATMENT AND PREVENTION. By ARTHUR COOPER. Fourth edition. Pp. viii + 266. Price 7s. 6d. net. London: H. K. Lewis, 1920.

This new edition of the author's book contains two new chapters on "Hygiene" and "Continence" respectively, and a short account is added on the subject of "Sexuality and War," including the views of some of those whose war experience had brought sexual conditions in the troops under their observation. The fact, however, is noticeable that this experience was very variable. Sir Frederick Mott, for example, affirms that in cases of war neurasthenia, sexual desire was largely in abeyance owing to the preponderating influence of the emotions concerned with the instinct of self-preservation. Gonorrhoea, it is stated, was the most common disease of the malingerer. Five cases came under observation in which the men had paid a comrade to allow them to contract it, so that they should not be sent back to the firing line. The work has been thoroughly revised, parts have been re-written, and some parts in the former edition omitted. An index of authors, and a general index of the contents, conclude the volume.

ON LONGEVITY AND MEANS FOR THE PROLONGATION OF LIFE. By SIR HERMANN WEBER, M.D., F.R.C.P. Edited by F. PARKES WEBER, M.D., F.R.C.P. With a preface by Sir CLIFFORD ALLBUTT, K.C.B., F.R.S. Fifth edition. Pp. xxii + 291. Price 12s. 6d. net. London: Macmillan and Co., 1919.

This fifth edition of the late Sir Hermann Weber's book was already in type at the time of his death. Dr. Parkes Weber consequently was called upon to edit it—a duty which practically consisted in correcting the proofs, while Sir Clifford Allbutt contributed the preface. The author's long life confirmed the teaching laid down in his book: he practised what he taught, and, judging from the repeated editions of his volume which have been called for, it is probable that many, especially of the laity, have been influenced by his advice to follow his example in ordering their lives.

Proceedings of the Royal Society of Medicine.

SUPPLEMENT

(Vol. XIII, No. 9, JULY, 1920).

NOTES ON BOOKS.

[The purpose of these "Notes" is not so much to praise or to blame as to draw attention to and describe some of the new books and new editions which have been added to the Society's Library.—ED.]

MODERN MEDICINE AND SOME MODERN REMEDIES: PRACTICAL NOTES FOR THE GENERAL PRACTITIONER. By THOMAS BODLEY SCOTT. With a Preface by Sir LAUDER BRUNTON, Bt., F.R.S. Second edition. Pp. xi + 198. Price 6s. 6d. net. London: H. K. Lewis and Co., Ltd., 1919.

No preface introductory to this the second edition of the author's work accompanies the volume, and the repeated description of Sir James Mackenzie as "Dr." James Mackenzie would suggest that the edition is a reprint of the first. The main features of the work include chapters on disorders of the heart, arteriosclerosis, therapeutic speculations and doubts, chronic bronchitis, and bronchial asthma. The essays, we learn, were written at odd times and in odd places, and embody many practical details gathered from the author's experience. The most suggestive of the series is that on therapeutic speculations and doubts, in which some interesting details are related of endocrine treatment. The author might be reminded to add to the usefulness of his work by including an index in the next edition.

INGUINAL HERNIA: THE IMPERFECTLY DESCENDED TESTICLE AND VARICOCELE. By PHILIP TURNER, M.S., F.R.C.S. With 22 illustrations; pp. viii + 104. Price 9s. 6d. net. London: J. and A. Churchill, 1919.

In this interesting and well illustrated little book the author describes the operations he performs for the three conditions mentioned in the title. He considers that Hamilton Russell's theory of the congenital origin of the sac in the vast majority of cases has been conclusively proved. In children or young adults, when secondary changes have not occurred in the walls of the canal he therefore simply removes the sac. When such changes have occurred or the musculature is deficient he performs Bassini's operation. For imperfectly descended testis, Mr. Turner has devised an entirely new operation in which, after freeing the testis, he passes it through a small hole in the septum into the opposite side of the scrotum, so that in unilateral cases both testicles lie together in the same half of the scrotum, and in bilateral cases each occupies the opposite side. In varicocele, after ligation and excision of the veins, he sutures the vertical incision in the sheath of the cord horizontally, thus shortening the cord and supporting the testicle.

CAVERNES PULMONAIRES ET PHÉNOMÈNES CAVERNEUX. Par le Dr. CH. SABOURIN. Pp. 147. Price 3 fr. Paris: Masson et Cie, 1919.

This small monograph deals with the subject of pulmonary excavation. The first part is devoted to the general symptoms of excavation revealed by percussion, palpitation, auscultation, radiology and radiography, fever and expectoration. The second part of this work is concerned first with cavernous sounds, existing in the absence of cavities, and next with cavities which have cavernous symptoms. The conditions in which these phenomena arise are dealt with at some length, and it is pointed out that in true excavation loud cavernous sounds are apt to disappear and re-appear. An explanation is sought as follows: That the cavity itself causes the auscultatory phenomena, but that these are often too faint to be transmitted to the ear, and that for this to take place there must be a reinforcing and transmitting apparatus formed by consolidation of a pulmonary lobe, which would explain why these sounds fade away when the surrounding lung has recovered its permeability and become apparent, and when the lung again becomes a very condensed tissue. Dr. Sabourin believes that the problem should be solved by comparative investigation of tuberculous foci without cavernous signs, of tuberculous foci, with permanent or temporary cavernous signs, and of results given by necropsies under favourable circumstances.

THE TRANSMUTATION OF BACTERIA. By S. GURNEY-DIXON, M.A., M.D. Cantab., M.R.C.S. Eng., L.R.C.P. Lond. Pp. xviii + 179. Price 10s. net. Cambridge: University Press, 1919.

The author points out in his preface that the essay on which this book is founded was compiled from notes and observations collected previous to 1913, and that the completion of the work was interrupted by war service in France, where means did not exist for bringing the references up to date. The book opens with a discussion on the scope of the inquiry, in which the definitions of terms, such as transmutation, spontaneous and impressed variation are examined, together with the difficult questions of classification of bacteria. Separate chapters are devoted to variations in morphology, fermenting power, virulence, and pathogenicity. Considerable detailed attention is also given to questions of changes in environment and the possibilities of contamination. The author concludes that (1) variation in every character of bacteria may occur; (2) that these variations may be spontaneous or impressed by conditions of environment; (3) that transmutation differs from evolution and variation merely in degree; and (4) that the occurrence of transmutation in the human body is not capable of proof, though it is suggested by circumstantial evidence. A synopsis and a list of references are given, but there is no subject index.

WHEELER'S HANDBOOK OF MEDICINE. By WILLIAM R. JACK, B.Sc., M.D., F.R.F.P.S.G. Sixth edition. Pp. xv + 561. Price 12s. net. Edinburgh: E. and S. Livingstone, 1920.

This useful handbook has now reached its sixth edition, and deserves the wide circulation that it has attained. Whilst the space allotted to each malady is necessarily compressed, a survey of the book fails to discover any noteworthy omissions. Every article has been carefully revised and brought as nearly as possible up to date. The chief alterations occur in the sections devoted to nervous diseases and the specific infections, acute poliomyelitis having been transferred from the former to the latter group. The article on tumours of the cord has been amplified, and a brief description of myasthenia gravis added to the diseases of muscles. New articles appear on Landry's paralysis, compression paraplegia and caisson disease. The final section devoted to medical diseases of the war constitutes an exceedingly apt summary. In a new edition encephalitis lethargica might perhaps receive more adequate mention, and the treatment of pulmonary tuberculosis, rheumatoid arthritis and other infective processes by intensive iodine administration might be included. The more liberal use of small type has kept the size of the book within reasonable and handy compass.

THE SYMPATHETIC NERVOUS SYSTEM IN DISEASE. By W. LANGDON BROWN, M.A., M.D.Cantab., F.R.C.P.Lond. Pp. xi + 161. Price 10s. 6d. net. London: Frowde, Hodder and Stoughton, 1920.

The inter-action of the endocrine glands with the autonomic nervous system is a fascinating problem which is now occupying a very prominent place in the world of medicine, not only for its physiological interest, but for the therapeutic possibilities connoted. The present volume—an amplification of the Croonian lectures of 1918—emphasizes the main plan of the nervous element, with particular reference to clinical considerations, and it is elaborated with the clearness of exposition and felicity of expression one expects from a clinician who is also a physiologist. The first chapter is devoted to the anatomical plan of the autonomic nervous system and the physiological effects which result from influencing the component parts—the sympathetic and the parasympathetic fibres—with the action of drugs in stimulating or paralysing these fibres. From this the author proceeds to point out that the adrenals, the thyroid and the pituitary have in common the three characteristics: that the secretion of each is stimulated by the sympathetic; that all lower carbohydrate tolerance, and that all act and re-act with the reproductive organs. Again, the reciprocal action is emphasized in the statement that the sympathetic nervous system stimulates secretion of these glands, the secretion of which in turn increases sympathetic response. Glycosuria receives very detailed consideration, and its differentiation from hyperglycæmia enables the author to include some pertinent remarks, dealing with the ventilation and disposal of misconceptions relating to diabetes mellitus. Thus the fact that sugar appears in the urine does not imply that no more can be utilized, but merely that the method of utilization cannot be brought quickly enough into play to prevent some escape, thus explaining why in the normal individual glycosuria *ex amylo* cannot occur. It explains, too, some therapeutic considerations employed hitherto empirically. Diabetes insipidus is analysed as resulting from four causes, disorders of the pituitary body, looming largely in its production. When one comes to the organs of digestion many conditions of "nervous dyspepsia" become clear when we assume increased susceptibility of the reflex nervous mechanism and the existence of lesions external to the stomach. The sympathetic nervous system in diseases of the circulatory system has important bearings upon the blood pressure, such considerations as advisability of its reduction by venesection, drugs, or lumbar puncture in cases of cerebral hæmorrhage; the meaning of œdema of the lungs; the consideration in general of hypertension and hypotension; and the real meaning of "shock."

The subject culminates in the now familiar vagotonia of Eppinger and Hess. The author analyses the opinions of the writers quoted with impartial but strict criticism. The general idea of vagotonia is acceptable to him, some of the details he is unable to assimilate. The vagotonic is a person who is unduly sensitive to a drug which stimulates the vagus, and, on account of the exaggerated tone of the centre, unduly insusceptible to the action of a paralysing drug. In other words he is very responsive to pilocarpine and relatively resistant to atropine. Increased vagus action will explain spasm of bronchial muscles and vaso-dilatation of bronchial mucosa (asthma), laryngeal spasm, bradycardia, hyperchlorhydria, low blood-pressure, respiratory arrhythmia, anginal attacks, tenesmus. Similarly sympathetic over-action causes the familiar symptom of sweating in Graves's disease (although Eppinger and Hess appear to regard this as a parasympathetic phenomenon). Another objection to the theory of Eppinger and Hess advanced by Dr. Langdon Brown is that pyloric spasm is described as a feature of vagotonia, although the sphincter is innervated solely by the sympathetic.

If, as the author suggests, one formulates a hypothetical hormone—perhaps pancreatic—which exerts a continuously stimulating action on the whole parasympathetic system as adrenalin acts on the sympathetic, unbounded therapeutic possibilities occur for many obscure and obstinate neuroses. Throughout the book the emotional element is explained in terms of sympathetic stimulation, e.g., emotional glycosuria, inhibition of digestion, the effect of pain, fear, rage, intense excitement—the freedom of katabolic activities which are primarily defensive in origin. And the subject is aptly summarized in the final chapter, which explains the familiar psychoneuroses in terms of development of

an exaggerated response of an originally defensive mechanism. "Designed as an intensive preparation for action or defence, the sympathetic response may be so dissociated, perverted or prolonged as to produce through the thyroid, Graves's disease . . . through the pituitary body, diabetes insipidus . . . through the pancreas, diabetes mellitus; it may disorganize digestion, it may keep blood-pressure at a level which is inappropriate for the task of the heart and arteries."

THE PRINCIPLES OF ANTE-NATAL AND POST-NATAL CHILD PHYSIOLOGY, PURE AND APPLIED.
By W. M. FELDMAN, M.B., B.S.Lond. With 6 plates and 129 illustrations; pp. xxvii + 694. Price 30s. net. London: Longmans, Green and Co., 1920.

The author explains very fully in the preface what is the plan of the book, and the different classes of readers to whom it may appeal. The ordinary physiological student will find all the phenomena of child life described with great fullness of detail. Pediatric physicians and all persons interested in the scientific study of childhood will find much that is informative and useful. The specialist in child physiology will find a detailed account, with full references to the literature, of what has been done practically up to the date of publication in any particular line of research. As a precise knowledge of the anatomy, macroscopic as well as microscopic, of the organs in early life is necessary for a thorough understanding of their physiology, this also is supplied. We may add that the principles of mathematics, of engineering, and of electrical action are applied with a familiarity which breeds respect in the ordinary reader. In carrying out these ideas Dr. Feldman has produced not a book but a cyclopædia of information bearing on the period of life dealt with. This entails a consideration of the ante-conceptual and conceptual germinal stages, the post-conceptual or intra-uterine stage, the natal stage, and the post-natal stage up to adolescence. Facts and observations on all the phases of early life are poured out in overwhelming abundance. These are derived largely from foreign writers, and the author states that but little work bearing on the subject has been done in this country, with the exception of Dr. Ballantyne's original contributions. Dr. Feldman has been charting for most of us an unknown sea. The chart is not yet absolute and final, for much of physiological teaching has to be scrapped periodically, but this chart will serve for the present. To physicians generally we commend the book as a standard work of reference. To those dealing more particularly with children, and desirous of instructive and stimulating reading, we promise a full return. The author has not only mastered his facts, anatomical and physiological, but he discusses them critically from his own point of view. Where so much is obscure he aids the reader by pointing out where truth or probability lies, and also the bearing of the facts on clinical medicine.

THE ENGINES OF THE HUMAN BODY: BEING THE SUBSTANCE OF CHRISTMAS LECTURES GIVEN AT THE ROYAL INSTITUTION OF GREAT BRITAIN, CHRISTMAS, 1916-1917. By ARTHUR KEITH, M.D., LL.D.Aberd., F.R.S. With 2 plates and 47 figures in text; pp. xii + 284. Price 12s. 6d. London: Williams and Norgate, 1919.

The method adopted by the author of this extraordinarily convincing book is to compare the systems of the human body to mechanical engines. Thus, muscles acting upon bones are levers, so planned that either great "lift" or extreme speed in reaction is obtained according to the requirements of the body. The motor bicycle with its complex arrangements for rapidity of motion, its control and its system of "feed," is taken as an exemplar of mechanical transport. Bone, muscles, joints with their mechanical properties are explained by likening them to the parts of the motor. Every detail finds a place and the descriptions are so clear and accurate, that he who runs may read. The machine may fail to work through lack or excess of heat, but the body by nice adjustments of its temperature prevents undue cooling or overheating. The circulation, the emunctories and their nerve control are explained in their rôle as heat regulators. The machine must cease working or it wears out; the human engines toil day in and day out, and by perfect adjustment the working wear is repaired even while the travail goes on. The machine must be fed with petrol, but the body

not only needs food—it must transform the raw material into the requisite pabulum. It needs further to be able to cleanse away the products of its work and dispose of excess of food metabolism. Digestion—the “workshops” of the body—elaborate the finished product for each engine supply, be it bone, muscle, nerve or the special senses. Their industry is unstinted, unrestricted by hours of labour, and their system of transport may not break down. The renovation of the tissues, their adaptation to the needs of growth or decay is the concern of countless “workers,” the artificers of bone, of muscle, of gland, or of brain cells. Then there are the fighters, the phagocytes, which are always under arms, and float in the great stream of life to contest against invasion by alien hosts of disease. What the motor lacks is initiative control, but man has his elaborate systems of a central control, the brain and a telephone system which in health never breaks down. The needs of every tissue is communicated to the “G.H.Q.”—the brain, and it issues instant orders for, it may be, a better blood supply, or increased activity of some section of the body builders. Into this fascinating story come flashes of biographical incidents; we are told of Fabricius of Padua, Servetus, the grave Harvey, of John Hunter and Stephen Hales and others of the giants which were in bygone days.

HANDBOOK OF PHYSIOLOGY. By W. D. HALLIBURTON, M.D., LL.D., F.R.C.P., F.R.S.
Fifteenth edition (being the twenty-eighth edition of Kirkes' Physiology). With nearly 600 illustrations, some coloured; pp. xix + 936. Price 18s. net. London: John Murray, 1920.

In a foreword is given the interesting story of the evolution of Dr. Kirkes' “Manual,” with the comprehensive system of physiology as Professor Halliburton has made it. It recalls to the older generation what the teaching of physiology was and what the needs of science now demand that it should be. The book comprises a brief general introduction explicative of the relations of morphology, biology and physiology. The minute anatomy of the tissues with an account of their life attributes follow and are succeeded by clear descriptions of the more highly developed structures. The functions of circulation, respiration, digestion, metabolism, and of the ductless and other glands are brought before the reader with extreme clearness. Indeed the method pursued and the happy mode of expressing the writer's meaning render the whole book vividly realistic and readable. The chemical aspect of the subject, for example, is often difficult to grasp and still more difficult to retain in the memory; but in this book there is a great deal of chemistry yet its expression is interesting and easily mastered. The exposition of the central and peripheral nervous system covers many pages and it, together with the cognate subject of the special senses, is thorough and clear. The manual, although primarily dealing with physiology, contains much extraneous information of value to medical men. There is a useful chapter on war diet, and the subject of vitamins receives attention. The illustrations, which are numerous, certainly elucidate the text.

ESSENTIALS OF TROPICAL MEDICINE. By WALTER E. MASTERS, M.D.Brux., M.R.C.S., L.R.C.P.Lond. With illustrations; pp. vi + 702. Price 42s. net. London: John Bale, Sons and Danielsson, Ltd., 1920.

In the words of the author, this volume is “a digest of our knowledge of Tropical Medicine . . . in a form handy for ready reference: the vade-mecum of the student and busy tropical practitioner.” It bears the somewhat ambitious title of “Essentials,” from which one might naturally assume that it contains, generally speaking, only such information as it is really necessary to acquire. This of course must always be a matter of personal opinion, but we certainly feel that in this respect the publication is open to considerable improvement. Neither can we commend the principle of attempting to satisfy the requirements both of the student and the practitioner in a single volume. The student needs precise information, in a handy and readable form, on the subjects of his curriculum, without the necessity for selecting portions from a large book of reference. The practitioner requires chiefly a practical guide to the details with which he must be acquainted in the actual treatment of tropical diseases. The book is divided into sections, the first five of which deal with

the distribution, pathology, symptomatology, treatment, &c., of the usual diseases of tropical climates; these are classified, so far as possible, on an etiological basis: i.e., whether due to protozoa, bacteria, worms, &c. Then follow sections on diseases of the skin, diseases of the eyes, tropical hygiene and sanitation, and laboratory hints, together with an Appendix on some minor matters. There are several errors in the text which will doubtless be remedied in future editions of the work. The book is profusely illustrated.

L'INFECTION BACILLAIRE ET LA TUBERCULOSE CHEZ L'HOMME ET CHEZ LES ANIMAUX: PROCESSUS D'INFECTION ET DE DÉFENCE; ÉTUDE BIOLOGIQUE ET EXPÉRIMENTALE.
Par A. CALMETTE. Avec 46 figures; pp. vi + 619. Price 55 f. Paris: Masson et Cie, 1920.

This large work by this well-known authority on tuberculosis is a biological and experimental study on tuberculosis. The morphology of the bacillus of Koch, the various methods of staining it, its culture and chemical composition receive full consideration, and tuberculin, toxins—both endo- and exo-toxins and the anatomic-pathological conditions—found in man and animals—are described in detail. The methods of infection are succinctly stated, the author being one of those who considers the digestive tract the most frequent method of infection. Tuberculosis in children has a chapter to itself and the writer believes no tuberculosis in children exists without tracheo-bronchial adenopathy. It is generally recognized that heredity plays a much more important part after birth than before birth, by the transmission of the tendency; but hereditary transmission before birth is not denied and in some circumstances can occur from infection of the placenta or at the moment of birth. Bovine tuberculosis and its appearance in various animals such as dogs, birds, &c., the reactions of defence of the organism against tuberculosis with a full description of the diagnosis by means of tuberculin reactions, serotherapy, vaccination, all are fully dealt with; in fact, nothing of value to the laboratory worker has been omitted. There are numerous references to authorities and there are a number of plates, some excellently coloured. The work is authoritative, as was only to be expected from a writer so well known, to whom, of course, we are indebted for the ophthalmic reaction.

HALF A CENTURY OF SMALL-POX AND VACCINATION. By JOHN C. McVAIL, M.D., LL.D.
Being the Milroy Lectures delivered before the Royal College of Physicians of London on March 13, 18 and 20, 1919. Pp. viii + 87. Price 5s. 6d. net. Edinburgh: E. and S. Livingstone (1919).

In the first lecture Dr. McVail provides numerous data to prove that natural small-pox attained its maximum of infectivity and mortality in this country in the pandemic of 1870-73, in which the case mortality reached as high as 45 per cent., but that since that time it has greatly diminished in fatality as well as in infectivity and prevalence. This diminished fatality was evident in the epidemic of 1902-05, in which the unvaccinated rate was 19.3 per cent. and the general rate in the provinces, including vaccinated and unvaccinated, was 6.9 per cent. In London in 1901-02 there was a temporary reversion to a higher general fatality-rate, viz., 16.8 per cent, but the rate in the metropolitan area in 1903 was only 3 per cent. The 1902-05 epidemic is the last occasion on which small-pox was extensively prevalent in Britain, but data available for succeeding years points to the decline in fatality still being continued. Dr. McVail indicates that there have been two types of small-pox occurring simultaneously in Britain in epidemic years, more especially since about 1900, a severe type, the European or African; and a mild type, the American. He does not necessarily believe that the disease is dying out in this country, but ascribes the increasing mildness in the type of disease found in Britain to the gradual replacement of the severe or African type by the attenuated or American type. He points out that small-pox is still very prevalent in some European countries and in North Africa and that there is still a grave risk of a re-introduction into Britain of a severe type of the disease. The second lecture gives an account of vaccination past and present. Routine infantile vaccination has declined to such an extent that in the year 1912, which is the most recent year for which returns are available, only about half the children born in England were being vaccinated, while in Scotland, in 1916, of

those who reached the age of 6 months 41 per cent. remained unvaccinated. As a result of vaccination in the Army being obligatory the adult population is, however, better protected by recent vaccination than in former years. Dr. McVail disposes of the argument against infantile vaccination that it often makes subsequent small-pox so mild as to be unrecognizable with consequent spread of infection by missed cases, by pointing out that it is most desirable that small-pox should assume a milder and modified form in those cases in which the disease is not actually prevented, not only because it is less fatal but also because it is less infective, and he concludes that to discourage vaccination in order that the "unvaccinated individual may have an easily diagnosable (therefore possibly fatal) attack of small-pox appears to be contrary to the principles of medical ethics and to the interests of the public health." In the last lecture there is a detailed account of the measures of prevention and control of small-pox which, in Dr. McVail's opinion, in the absence of systematic vaccination and revaccination should be adopted in this country on the appearance of small-pox at the present day. He is convinced that the measures at our disposal should enable us to deal with any invasion by the disease from other countries in which small-pox may be prevalent, despite the fact that there has been such a decrease in systematic vaccination in infancy. Vaccination of contacts supplemented by isolation, disinfection and the other measures for controlling epidemics named above proving insufficient there would remain but one method which could be effective, namely general vaccination.

COMMON DISEASES OF THE SKIN, WITH NOTES ON DIAGNOSIS AND TREATMENT. By G. GORDON CAMPBELL, B.Sc., M.D., C.M. Illustrated; pp. viii + 229. Price 21s. net. New York: The Macmillan Company, 1920.

That the author is experienced in both dermatology and therapeutics is shown by the contents of the book as well as by the appointments he holds. The inexperienced prescribe many remedies for each disease, but the author recommends the same remedy for many diseases. He does, however, vary the names: Ung. hyd. amm. and white precipitate ointment; ung. hyd. nit. and citrine ointment; green soap and soft. The lines of treatment, as simple as they are carefully selected, should serve as models for teachers in all branches of medicine. The illustrations are so numerous and typical that even those who have paid scant attention to diseases of the skin can acquire a sound basis of knowledge.

MECHANICAL DENTISTRY: A PRACTICAL TREATISE ON THE CONSTRUCTION OF THE VARIOUS KINDS OF ARTIFICIAL DENTURES, COMPRISING ALSO USEFUL FORMULÆ, TABLES, AND RECEIPTS FOR GOLD PLATE, CLASPS, SOLDERS, &c. By CHARLES HUNTER. Seventh edition. With 102 illustrations; pp. xv + 266. Price 5s. net. London: Crosby Lockwood and Son, 1920.

The author of this work has carefully explained the technique employed by dentists during the last fifty years. The innovations referred to, viz., celluloid and continuous gum-work, occupy chapters which might almost be omitted, as they have had their day. Newer methods such as bridge-work and gold crowns seem to deserve notice in such a work. The chapter on pivoting is archaic and the illustrations extremely weak. The chapters on gold-work, the striking up of plates and the mounting of tube teeth are sound and complete, though nothing is said about casting plates, a method almost universally adopted for certain cases! Every student should read these chapters carefully, and are we not all students? The chapter on vulcanite sets forth everything it is necessary to know. Emphasis is laid on time in vulcanizing if the results are to be good; vulcanite needs no strengtheners if properly treated. The orthodox methods of constructing "obturators" are concisely explained and well illustrated. The notes on metals and materials used in dental work are valuable and reliable, but as it is not likely that dentists will melt down sovereigns again, many of the formulæ become obsolete. To-day refining and preparing of gold is in the hands of experts, who supply any carat or alloy to order. The notes on acids, &c., are always useful for reference. The book is well written, set up in good type, and may be regarded as a standard work.

ANATOMY, DESCRIPTIVE AND APPLIED. By HENRY GRAY, F.R.S., F.R.C.S. Twenty-first edition, edited by ROBERT HOWDEN, M.A., M.B., D.Sc. With 1,215 illustrations; pp. xvi + 1366. Price 42s. net. London: Longmans, Green and Co., 1920.

Within two years another edition, the twenty-first, of "Gray" has been called for. It contains forty-four more pages, and more than eighty new illustrations, than the previous edition, and a little calculation will show that upon an average, an illustration is incorporated with almost every page of the text. In the preface, the editor, Professor Howden, discusses his preference for the Basle nomenclature, which he has adopted. He sums up the position as follows: "A careful examination of the 'Basle' terminology shows that for the most part it does not consist of new terms but of a selection of old ones, together with such modifications and additions as make for accuracy and brevity in description. It would seem, therefore, reasonable to utilize the labour that has already gone to its construction, and to adopt this terminology as a basis for future revision, as suggested by American anatomists."

ANIMAL EXPERIMENTS AND SURGERY. HUNTERIAN LECTURES DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND ON FEBRUARY 13, 16 AND 18, 1920. By WALTER G. SPENCER, M.S., F.R.C.S. Pp. viii + 179. Price 6s. net. London: University of London Press, 1920.

This book contains the three Hunterian Lectures delivered by the author at the Royal College of Surgeons of England during February of this year. His theme is based upon the effort to show the definite association of the advance of surgery with experiments upon animals. The first lecture is devoted to historical details, the second discusses the application of surgery to organs and organized structures, the third to improvements in surgery. The fact is pointed out that some discoveries to which experiments upon animals have led, have resulted in improvements in medical treatment, and have rendered unnecessary much of what was indifferent surgical treatment. A full list of references to the subjects discussed is added at the end of the work, but there is no index.

MICROSCOPY: THE CONSTRUCTION, THEORY AND USE OF THE MICROSCOPE. By EDMUND J. SPITTA, L.R.C.P.Lond., M.R.C.S.Eng., F.R.G.S., F.R.M.S. Third edition. With 398 illustrations; pp. xxviii + 537. Price 25s. net. London: John Murray, 1920.

The size of this third edition of the author's work is a remarkable testimony to the development in the process of years, of the science of microscopy. So essentially has it now become a special branch of science, that it is possible to conceive of anybody, especially the medical student, being somewhat appalled at finding himself confronted with the task of acquiring a workable knowledge of it. However that may be, this text-book provides him with the means for undertaking the task, and in this new edition various improvements have been effected with the object of facilitating his mental assimilation. The work has been fully revised, and contains several new features. Mention may be made of the description of a comparatively new type of low power combination for studying and reproducing objects, such as whole flies, fleas, lice and suchlike creatures of large dimensions, at different magnifications. The absence of a satisfactory method of accomplishing this in the war created a difficulty, which has now been overcome. Again special attention is directed to the employment of some new short wave-length gelatine fibres to assist resolution when used in conjunction with high-power illuminants. The index has been enlarged by numerous new entries, in order to facilitate quick reference. The admirable plates are a noteworthy feature of the volume.

THE PROBLEM OF NERVOUS BREAKDOWN. By EDWIN LANCELOT ASH. Pp. xii + 299. Price 10s. 6d. net. London: Mills and Boon, 1919.

This work is intended to appeal to all those whose vocation in life is such that some knowledge of the manifold factors connected with nervous disorders should prove of use. In Part I the etiology is discussed under the headings of the emotions, nervous temperament, and factors predisposing to and determining breakdown. In the second part, the varieties of

nervous breakdown are dealt with, such as the neurasthenic state, morbid fears and doubts, nervous indigestion, hysteria, and multiple personality. The various hygienic measures for the correction of nervous illness are given at some length in Part III. The rest cure, diet, sleep, rest and recreation have special chapters devoted to them, while the special malfunctionings of childhood and youth also receive attention. The breakdowns of war conclude the book. It may be noted that the author is not a follower of the more advanced school of neurologists.

THE MAMMARY APPARATUS OF THE MAMMALIA IN THE LIGHT OF ONTOGENESIS AND PHYLOGENESIS. By ERNST BRESSLAU, M.D. With a Note by JAMES P. HILL, D.Sc., F.R.S. Pp. vii + 145. Price 7s. 6d. net. London: Methuen and Co., Ltd., 1920.

This is an extraordinarily interesting book, for which we are indebted to Professor Ernst Bresslau. It deals with the evolution of the mammary apparatus. The first lecture or chapter describes the origin of the mammary apparatus of the mammalia and its structure and development in the monotremata. In the second lecture the Professor describes the structure and development of the mammary apparatus in the marsupialia, and in the third the development of the mammary apparatus in the placentalia. These lectures, dealing as they do with the origin and development of an essential part of the higher orders of the animal creation are full of interest to students whether undergraduate or graduate, and those who turn to them for information cannot but be grateful for the clearness of the diction, the wealth of information, and for the many diagrams and pictures with which the book is enriched. The Professor remarks that "we have no longer to suppose that the mammary apparatus of the mammals arose *de novo* in this highest class of vertebrates, but we now know that it resulted from primitive structures developed in their oviparous ancestors for brooding purposes," and from the next paragraph we learn that the recognition of the structure and function of the brooding organs of lower forms is able to explain the possession of mammary organs by the male sex, in which, however perfect the structure may be, it does not normally function. The fact that many birds, and probably some beasts, take a share in the brooding and incubation of the young, explains the similarity of structure in the two sexes. As the Professor says—"the mammary apparatus then was not exclusively acquired by the female but arose quite naturally in both sexes alike, on the ground of inherited disposition, and not until the disappearance of its function in the male did it undergo a retrograde metamorphosis in that sex." It is, however, useless to attempt quotations from such a book; it ought to be read by those who are interested in the subject with which it deals.

FEVER NURSING, DESIGNED FOR THE USE OF PROFESSIONAL AND OTHER NURSES, AND ESPECIALLY AS A TEXT-BOOK FOR NURSES IN TRAINING. By J. C. WILSON, A.M., M.D. Ninth edition. Pp. 272. Price 7s. 6d. Philadelphia and London: J. P. Lippincott Co., 1919.

This book is one of a series of Nursing Manuals, admirably clear, well printed, and well got up in all respects. The first chapter deals with fever nursing in general, and is perhaps the most valuable part of the book. It defines the terms—fever, pyrexia, apyrexia, and hyperpyrexia, it dwells on the qualifications of a good fever nurse, and gives advice as to the preparation of a sick room, the avoidance of infection, and the other duties common to all fever nursing. In Chapter II there is a classification of fevers into continued, periodical, eruptive, and fevers with marked local manifestations. All this is interesting information which tends to make the nurse's work more intelligent, and therefore pleasanter to herself, more useful to the patient, and more acceptable to the doctor. In Chapter III nursing details are described, and in Chapters IV, V and VI the continued, periodical, and the eruptive fevers are considered, and the necessary variations of nursing treatment are passed under review. Chapter VII, the last in the book, deals with fevers of widely different significance, although it is true that all of them have marked local manifestations. This no doubt accounts for the juxtaposition of rheumatic fever, pneumonia, cerebro-spinal fever, and the plague!

OPERATIVE SURGERY : A COMPANION VOLUME TO A "MANUAL OF SURGERY." Vols. I and II.

By ALEXIS THOMSON, F.R.C.S.Ed., and ALEXANDER MILES, F.R.C.S.Ed. Third edition, with 279 illustrations; pp. xviii + 619. Price 16s. net. London: Henry Frowde, Hodder and Stoughton, 1920.

This book is admirably calculated to enable students to appreciate lectures on surgery and the course of surgical operations, and to systematize their knowledge so as to get it into operation form. The authors have been compelled by considerations of space to compress their information, but thanks to their own clearness and to the admirable diagrams with which it is furnished there is no confusion, and the purpose of the book is well served. Taken in conjunction with its companion volume, "A Manual of Surgery," by the same authors, it is a clear and ready guide through the enormous field of modern surgery. Enough anatomy is introduced to afford good landmarks, but the student is rightly supposed to have an adequate knowledge of this subject before he commences the study of surgical operations. It is not likely that Thomson and Miles' "Operative Surgery" will displace the larger volumes which are equally correct and lucid; but not everyone has the means wherewith to purchase the larger books, nor is everyone able to luxuriate in reading them before taking his qualifying examination. To the majority of students this volume, clear, accurate, and well written, with its admirable diagrams, will be of inestimable service.

THE NEW PSYCHOLOGY AND ITS RELATION TO LIFE. By A. G. TANSLEY. Pp. 288. Price 10s. 6d. net. London: George Allen and Unwin, 1920.

Though this work is intended for the general reader, it should be read by all medical practitioners to whom a knowledge of the contents would prove a valuable adjunct in enlarging their conception of humanity on a scientific basis. Ignorance of the psychological and biological factors in deviations from the normal functioning in somatic disorders must be a great handicap to all medical men, while a true insight into the mental processes which may bring about unhappiness, anti-social attitudes, nervous and mental breakdowns, will not only give the family physician the opportunity of recognizing the importance of such in their early stages and aborting them—thus benefiting society, but will give him an interest in many patients who previously, perhaps, have only bored him. The author does not deal with ordinary text-book psychology, but here presents the knowledge that has been gained by the modern study of psychopathology. Here the psycho-analytic doctrines are mainly taken as established and the work of Freud, Jung and Trotter as accepted. Thus the unconscious, psychic determinism, the workings of the libido, repression, mental conflict, dreams, rationalization, the various instincts and complexes are dilated upon. The writer is evidently an enthusiast, and puts his matter in a clear and highly interesting way. No serious exception can be taken to anything the author says, though psychologists of an older school would regard much as debatable. The title correctly describes the contents, which can be highly recommended without any reservations.

PASTEUR : THE HISTORY OF A MIND. By EMILE DUCLAUX. Translated by ERWIN F. SMITH and FLORENCE HEDGES. Illustrated; pp. xxxii + 363. Price 21s. net. Philadelphia and London: W. B. Saunders Company, 1920.

First published in 1896, in France, the senior translator, in the introduction to the present book, said that when he read it for the first time he wrote on its margin: "The most useful book I have read in a long time." Ten years later he sees no reason for altering his judgment; hence this illuminating sketch of the intellectual life of one of the greatest sons of France is now available for English readers. Duclaux is a capital Boswell, and possesses himself a genius of his own. Of him Madame Duclaux concludes her biography with these words, in which many will concur: "L'âme la plus modeste, la plus désintéressée, et une des plus justes de ce temps." Throughout the book we are fascinated by the manner in which our guide leads us on through the many-chambered temple of the mind of the great French physicist, chemist, microscopist, and pathologist, who little foresaw that his researches in crystallography would end in his discovery of the means for preventing rabies.

His life work is presented in eight sections, each representing connected steps in the evolution of his mind. Thus we see that the idea that guided Pasteur in his work on fermentation arose from an observation he had made during the study of the rotary power of certain crystals. He was not a physiologist, but he, nevertheless, undertook to study silkworm disease in Southern France, a work that occupied six years, incidentally placing the great questions of contagion and heredity upon an experimental basis. His studies of the cause of fermentation in beer, wine, and vinegar, enabled Pasteur to assert with assurance that the anthrax bacillus was the sole cause of anthrax in the note of April 30, 1877, though the proof which it set forth had been previously made. From this time forward his wonderful insight divined that he possessed a weapon for combating microbic diseases which his predecessors had not. His was the observation that the inoculation into an animal of a filtered culture of the organism of a disease produces symptoms similar, though less profound, than the disease of which that particular organism is the cause. From his triumphs in connexion with anthrax vaccination, in 1881, it was but a short step towards the final goal, the discovery of the prophylaxis of rabies. There is an annotated list of persons mentioned in the book, and several interesting photographs.

AN ATLAS OF THE PRIMARY AND CUTANEOUS LESIONS OF ACQUIRED SYPHILIS IN THE MALE.

By CHARLES F. WHITE, O.B.E., M.B., and W. HERBERT BROWN, M.D. With a foreword by Lieutenant-General Sir JOHN GOODWIN, K.C.B., C.M.G., D.S.O. With 4 coloured plates and 31 illustrations; p. vii + 32. Price 27s. 6d. net. London: John Bale, Sons and Danielsson, 1920.

Owing to the hold which the pathological aspect of venereal diseases has obtained on the mind both of the profession and of the public, a circumstance which must lead to the lack of support the profession will get from the public when any gaps in knowledge become evident, we cordially welcome a volume dealing almost exclusively with the clinical side. This book is a brief analysis of 19,000 cases, those most typical being illustrated with coloured plates and photographs. As chief attention is given to the primary lesion, this atlas should prove of the greatest value to the beginner, since the surest and quickest way to diagnose a sore is with the naked eye. The photographs are excellent, but the coloured plates are not up to the standard generally reached nowadays.

A MANUAL OF VENEREAL DISEASES FOR STUDENTS. By L. W. HARRISON, D.S.O., M.B., Ch.B., M.R.C.P.E. With 333 illustrations in the text and 21 plates; pp. xv + 360. Price 16s. net. London: Henry Frowde, Hodder and Stoughton, Ltd., 1920.

This book will scarcely fulfill its purpose, as students require food for thought or inquiry, and not simply mere statements of current opinion. Greater attention is devoted to the pathological than to the clinical aspect; this is especially noticeable in the pages devoted to venereal diseases in women and children. As the present day treatment is new and is falling far short of our expectations, it would have been wiser to warn the student of the increase of nervous syphilis, and to have instructed him as to how to handle cases of metallic intoxication and those severe recurrences which resist all treatment, and which are now so common. The coloured illustrations do not reach the standard of present-day requirements, and we think that as few instruments as possible should be depicted, as chronic urethritis to-day is more often of instrumental than of gonococcal origin. What the student of to-day mainly requires to know is how the handling of venereal diseases now compares with the treatment in vogue before the salvarsan era. The important clinical work he can pick up in a venereal hospital only.

ORTHOPÆDICS FOR PRACTITIONERS: AN INTRODUCTION TO THE PRACTICAL TREATMENT OF THE COMMONER DEFORMITIES. By PAUL BERNARD ROTH, M.B., Ch.B. Aberd., F.R.C.S. Eng. With 57 illustrations; pp. xii + 195. Price 10s. 6d. net. London: Edward Arnold, 1920.

This book does not pretend to be a complete treatise or text-book on orthopædic surgery. It represents, however, certain aspects of the treatment of deformities, and expresses the

personal opinions of the author. These appear to be lacking neither in decision nor definition, and some of them differ strongly from those held by orthopaedic surgeons of great experience. We refer, as examples, to Mr. Roth's sweeping condemnation of the practice at orthopaedic hospitals of applying walking instruments in the treatment of congenital club foot, and of the practice of allowing some weight to be borne on the end of the stump in the fitting of artificial limbs. The book is written in a colloquial style, which, however, leaves no doubt as to the author's meaning.

LECTURES ON VENEREAL DISEASES. By LEONARD MYER, F.R.C.S. Pp. 88. Price 6s. net. London: The Albany Press, 1919.

This book is designed, according to the author, to meet the requirements of nurses, midwives and masseuses, and those members of the general public interested in the subject. The subject matter, therefore, is simply written and clearly put, but we think it is too curtailed to be of any real value. A little knowledge is a dangerous thing—in venereal diseases perhaps more than in any others. Treatment is omitted, because by law it must not be undertaken by any person not legally qualified to practise medicine. The book is dedicated to St. Paul's Hospital.

THE X-RAY ATLAS OF THE SYSTEMIC ARTERIES OF THE BODY. By H. C. ORRIN, O.B.E., F.R.C.S. Ed. With 21 plates, pp. 91. Price 12s. 6d. net. London: Baillière, Tindall and Cox, 1920.

It is so difficult, at the present time, to obtain bodies for dissection or for operative-surgery classes that any means by which an accurate knowledge of anatomical details can be obtained is sure of a welcome. More especially is this the case when a visual memory can be cultivated. An X-ray atlas of the arteries of the body should prove of great value, and the present volume, as a first attempt, will be examined with great interest. Unfortunately the "subject" available was only a full-time foetus, and the author says nothing about the similarities, or comparative relations, of adult vessels. Moreover he has been able to give only six stereoscopic plates and they are necessarily small, yet it is by stereoscopic vision alone that the relations of parts can be appreciated. To read single plates requires no little practice and great clarity of anatomical memory, so that perhaps the most striking feature at a first glance, is the number of unnamed vessels. It will, it seems, require most painstaking individual instruction to enable the teacher to pass on his knowledge to a new student. The author, in times of peace, will certainly be able to produce a larger and better book on similar lines.

DIATHERMY IN MEDICAL AND SURGICAL PRACTICE. By CLAUDE SABERTON, M.D. Illustrated; pp. xii + 138. Price 7s. 6d. net. London: Cassell and Co., Ltd., 1920.

In his preface the author states: "The aim of this little book is to serve as a guide to students and practitioners who wish to master the technique of diathermy, and to appraise its place in the treatment of disease." In point of fact, this little volume is the only English complete monograph that has hitherto been published on this now important method of treatment.

First demonstrated in England by Professor Nagelschmidt of Berlin at St. Bartholomew's Hospital in 1910, the potentialities of diathermy for good were soon recognized, with the result that its employment has been more and more extended for a variety of morbid conditions both medical and surgical. With the exception, however, of Nagelschmidt's "Lehrbuch der Diathermie," published in 1913, the literature of the subject has been restricted to various articles in medical and scientific periodicals, not always accessible, and to sundry chapters in certain books on medical electricity. Accordingly this volume comes at an opportune moment to meet a decided want.

The book is divided into three parts. Part I, Technique, deals with the production of high frequency currents, and describes the various models of diathermic apparatus, the physical properties and physiological effects of diathermic currents, and the methods of application. Part II explains Medical Applications of Diathermy, and, in Part III, Surgical

Diathermy, the author gives his own experiences and quotes largely from those of others. He also touches upon ionization and other methods of treatment which are sometimes combined with diathermy.

The book contains a great deal of useful information, but some of the illustrations are reproduced on too small a scale, and some of the descriptions are slightly lacking in clearness.

At the end of his preface, the author remarks that this therapeutic method "should not be given by unqualified operators," and he utters a note of warning against the administration of electrical treatment of any kind whatever by the untrained. Anyone acquainted with diathermy must be aware that if successful results are to be obtained, strict attention to correct technique must be rigidly observed.

The section devoted to bibliography is very full and will be found extremely useful.

RHEUMATISM AND ARTHRITIS. By RALPH STOCKMAN, M.D. Pp. vii + 132. Price 15s. net. Edinburgh: W. Green and Son, 1920.

The title of this book hardly does justice to its scope. It is really a complete, though concise, treatise on all the medical forms of arthritis—with the exception of gout—as well as on those conditions which have been included vaguely under the term "rheumatism." Acute rheumatism is dealt with first and then fibrositis in its different manifestations. The author admits the difficulty of constructing any satisfactory classification of the chronic forms of arthritis, but the divisions which he adopts are clinically convenient. A chapter is devoted to chronic non-suppurative arthritis (which he subsequently divides into rheumatoid arthritis and chronic infectious arthritis) and one to arthritis of known causation (scarlatinal rheumatism, syphilitic arthritis, &c.). Chronic osteo-arthritis is described separately and the historical sections of the book are of particular interest and, as might be expected from the author, treatment is dealt with very fully and clearly. The photographic illustrations, both clinical and pathological, are numerous and excellent.

GRANDES ET PETITES OBÉSITÉS, CURE RADICALE. Par Dr. FRANCIS HECKEL. Second edition. With 12 plates and 60 figures. Pp. ii + 537. Price 15 fr. net. Paris: Masson et Cie, 1920.

The second edition of Dr. Francis Heckel's work on obesity has been thoroughly revised and brought up to date since the appearance of the first edition in 1911. Although this volume is smaller than its predecessor, owing to condensation in certain parts, it deals more fully with others, the sections on which have been entirely re-written, notably the chapters devoted to pathology and treatment. These are based upon a study of 4,000 cases. In the first chapter normal and pathological stoutness are defined and contrasted, and the importance of the co-efficient, fat to muscular tissue, in the classification is insisted on. In the next chapter the etiology of obesity is discussed, and this is followed by sections dealing with the symptoms and complications. The pathogenesis of various forms of excessive stoutness is then considered and leads to a discussion of the evolution, diagnosis, and prognosis. In the chapter on treatment the methods employed in the past are first described and criticized, then the author deals with the means he now adopts for reducing fat in different types of case. An appendix is devoted to the description of characteristic cases and to tables of food materials, &c. The text is illustrated by photographic reproductions of different types of obesity and the effect of treatment upon them.

DR. G. HERSCHELL'S TEXT-BOOK OF INDIGESTION. Revised and rewritten by ADOLPHE ABRAHAMS, O.B.E., M.D.Camb., M.R.C.P.Lond. Fourth edition. With 8 plates; pp. vii + 228. Price 10s. 6d. London: Edward Arnold, 1920.

Dr. George Herschell's Text-book on Indigestion appears to have filled a want, for it passed through three editions, the last of which appeared in 1905. A fourth edition was contemplated, but its publication was delayed and eventually prevented by the death of the author. On taking up Dr. Herschell's work the present author found that such radical changes had taken place in our conception of functional diseases of the alimentary tract, and so much new work had been done, especially on radiographical lines, since the last edition,

that it was necessary to re-write the whole book. In doing so he departed somewhat from the idea of former editions, and decided to include organic diseases of the stomach as well as functional disorders. After considering the processes of normal digestion, he discusses the nature and causes of indigestion, and then proceeds to describe the investigation of a case, dealing in turn with the clinical symptoms and history, the physical examination of the patient, intragastric methods and technique, and the examination of the stools. The symptoms, diagnosis, and treatment of acute indigestion, chronic gastritis, gastric and duodenal ulcer, malignant disease of the stomach, dilatation of the stomach, pancreatic indigestion, reflex dyspepsia, dyspeptic symptoms associated with non-gastric organic affections, and nervous indigestion are dealt with in successive chapters. In an appendix an account of the preparation of foods for dyspeptics by the late Dr. Herschell is reproduced substantially unaltered from previous editions.

THE BLIND: THEIR CONDITION AND THE WORK BEING DONE FOR THEM IN THE UNITED STATES.
By HARRY BEST, Ph.D. Pp. xxviii + 763. Price \$4. New York: The Macmillan Co., 1919.

This book of nearly 800 pages discusses the question of the blind as it is presented in the United States. The subject is divided into seven parts: (1) General condition of the blind, (2) blindness and the possibilities of its prevention, (3) provision for the education of blind children, (4) intellectual provision for the adult blind, (5) material provision for the blind, (6) organizations interested in the blind, (7) conclusions with respect to the work for the blind. From lists shown in three appendices, the United States contains forty-six schools for educating the blind, in institutions, exclusive of nine day schools, fourteen homes for the adult blind, seven homes for blind children, and thirty-nine industrial establishments for the blind. Much attention in America is now being directed to preventive measures against blindness, namely the prevention of purulent conjunctivitis in infancy, the prevention of trachoma, the prevention of loss of sight occurring from injuries and accidents, and from industrial conditions. A special organization, of wide co-operation, has been formed to deal with these questions, and it is engaged in a campaign to educate the public and to secure the necessary measures for improvement. From the evidence he has been able to collect the author is in a position to announce that, taking the situation as a whole, there is little question that headway is being made in the prevention of blindness, and that blindness in the United States is tending to decrease, though perhaps very slowly as yet.

PHYSIOLOGIE NORMALE ET PATHOLOGIQUE DES REINS. Par L. AMBARD. Deuxième édition. Pp. 368. Price 18 fr. net. Paris: Masson et Cie, 1920.

In this work the author almost entirely confines himself to the views of the French school. In dealing with the normal kidney he intentionally omits what he describes as "the classical physiology of the kidney," and limits himself to an elaborate study of the concentrating powers of the organ. This capacity for concentrating substances which occur in minimal quantities in the blood-stream, and eliminating them in much higher concentrations in the urine, he regards as the most important expression of renal function. After describing methods by which the maximum concentration of urea in the urine can be evoked in man and in the dog, and discussing the significance of the test, he proceeds to describe his well-known constant of urea excretion. He demonstrates the identity of the urea constant with the constants of other substances which are excreted by the kidney without attaining a threshold value in the blood, such as iodine, ammonia and sulphates. Working on the assumption that the urea constant holds also for substances which must attain a certain threshold value in the blood before they can be eliminated by the kidney, he is able to calculate the threshold for these substances in individuals in whom the urea constant has been determined. The thresholds for glucose and chlorides are exhaustively dealt with. It may be pointed out that the fixity of the constant in the individual has recently been questioned by various authors, and that it has been suggested that its variations in the normal are considerable. In the second half of the book he deals with the diseased kidney

from the standpoint of function. Cases of nephritis are differentiated into azotæmic, oedematous, and mixed groups. In the oedematous group the excretion of the threshold substances is impaired, while the non-threshold substances are excreted in a normal manner. In the azotæmic group the power of eliminating the non-threshold substances is diminished, and, according to the author, the efficient excretion of the threshold substances is due to a lowered threshold. Such changes in the threshold, if Ambard's theory of the identity of the constant in the two classes of substances is correct, are obviously the only mechanism by which threshold substances could still be apparently normally eliminated, when the power of excreting non-threshold bodies has been largely lost. The book concludes with chapters on the general symptoms of nephritis, prognosis in nephritis, and on the testing of renal function in surgery. No attempt is made to correlate functional defects with the findings of morbid anatomy.

A TEXT-BOOK OF OPHTHALMIC OPERATIONS. By HAROLD GRIMSDALE, M.B., F.R.C.S., and ELMORE BREWERTON, F.R.C.S. Second edition. With 129 figures; pp. vii + 438. Price 18s. net. London: Ballière, Tindall and Cox, 1920.

Since the first edition of this work was published, about thirteen years ago, many changes have taken place in the operative treatment of diseases of the eye. It has therefore been the first object of the authors to bring their work up to date, while preserving, as far as possible, the original lines upon which it was first designed. In keeping with this object certain operative procedures, formerly described, have been omitted, while a chapter has been added on operations on the conjunctiva, as well as one on the treatment of retained foreign bodies. Again the developments which have taken place in the operative treatment of glaucoma, during the past few years, have necessitated the chapter on this subject being re-written. The feature of the first edition, namely, diagrammatic illustrations, in preference to photographic reproductions, has been retained throughout. The useful plan has been followed of adding to each of the more important chapters a bibliography of the papers referred to in the text. At present this work is the only one on the subject in our language, thus placing it in a position which will commend it to those for whom it has been compiled.

HENRY QUIN, M.D., PRESIDENT AND FELLOW OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND, AND KING'S PROFESSOR OF THE PRACTICE OF PHYSIC (1718-1891). By T. PERCY C. KIRKPATRICK, M.D., M.R.I.A. Illustrated; pp. 66. Price 10s. 6d. net. Dublin: The University Press, 1919.

Henry Quin was the son of Thomas Quin, a Dublin apothecary of some note in the early part of the eighteenth century, who himself is presumed to be a kinsman of Mark Quin, apothecary, who was Lord Mayor of Dublin in 1667. Born in 1717 or 1718, Henry Quin entered Trinity College from a private school in 1733, taking his bachelor's degree in arts four years later. He graduated in medicine in the University of Dublin in 1743, becoming M.D. Padua in 1749. He was elected, after examination, King's Professor of Physic in the medical school of Trinity College in the same year, and was soon afterwards elected a Fellow of the King and Queen's College of Physicians in Ireland. He embarked upon a fashionable practice in Dublin, and married in 1753 Miss Anne Monck, whose family was "considered as belonging to the most exclusive social circle." In 1762 he purchased the lease of No. 101, St. Stephen's Green, which is now the "St. Patrick's Nurses' Home." He was elected Registrar of the College of Physicians in 1754, and in 1757 he was chosen Censor. He was at this time Inspector of the Apothecaries' Shops. After only four years as Fellow, he was first elected President on St. Luke's Day, 1758, and he was subsequently chosen six times to fill that office. Henry Quin was an accomplished musician, and was also greatly interested in the collection of cameos and intaglios, and afterwards taught and encouraged James Tassie in the art of making pastes. He amassed a considerable fortune, and in 1771 he purchased the property of Borleigh, in Co. Wexford. He died in 1791, leaving three sons and three daughters. There is much in the book to interest the antiquarian and historian.

FRACTURES, COMPOUND FRACTURES, DISLOCATIONS AND THEIR TREATMENT: WITH A SECTION ON AMPUTATIONS AND ARTIFICIAL LIMBS. By JOHN A. C. MACEWEN, M.B., C.M.; B.Sc. With 48 plates and 61 diagrams; pp. xii + 285. Price 12s. 6d. net. Glasgow; Maclehose, Jackson and Co., 1919.

In the first section of this book the author deals with fractures in general—their varieties, the natural processes of repair and complications. The next section is devoted to individual fractures—those of the skull, vertebrae, face, clavicle, ribs, upper limb, and lower limb, being considered in turn and their treatment described and clearly illustrated. Dislocations are next dealt with in order corresponding to that of the different fractures; congenital dislocations being briefly noticed. Pathological dislocations are also considered. The last section deals with the treatment of shock and the choice of anæsthetic and the question of operating in cases in which shock is present. Amputations and artificial limbs are described with many illustrations, including one of the author's machine for making wooden sockets from plaster casts of stumps. The plates are taken from a collection of photographs by Sir Wm. Macewen and the author, and, like the diagrams, are all very clear. The experience of the war as applied to fractures is fully reflected in this work.

PHYSIOLOGICAL PRINCIPLES IN TREATMENT. By W. LANGDON BROWN, M.A., M.D. Cantab., F.R.C.P. Fourth edition. Pp. vii + 427. Price 8s. 6d. net. London: Baillière, Tindall and Cox, 1919.

The new edition of this popular book has been revised in the light of the latest knowledge, and the chapters on diabetes and acid intoxications have been almost entirely re-written, but there has been no great addition of new matter.

PROSTATECTOMIE SOUS ANESTHÉSIE LOCALE. Par VICTOR PAUCHET. **COMPLICATIONS, SOINS CONSÉCUTIFS.** Par R. DE BUTLER D'ORMOND. With 20 illustrations; pp. 25. Price 5 fr. Paris: Maloine, 1919.

In this book a short and very lucid description is given of the author's method of operation in cases of enlarged prostate. He employs local or regional anæsthesia, and the first part of the book deals with this. The special points brought out are first the determination of the renal function by the methylene blue test, the removal of sufficient mucous membrane of the floor of the bladder to avoid an obstructing flap after the operation and the employment of gauze packing and Carrel's tubes for insertion in the cavity left after removal of the prostate in septic cases. The illustrations are excellent, and the book can be confidently recommended to those interested in the subject.

TRAITEMENT CHIRURGICAL DES AFFECTIONS DE L'ESTOMAC. Par VICTOR PAUCHET. With 90 illustrations; pp. 72. Price 12 fr. Paris: Maloine, 1919.

This book, or more properly atlas, for barely one quarter of the space is given to letterpress, deals essentially with the operative surgery of gastric affections. In it the author describes, with the aid of most admirable drawings, his own particular technique and methods of dealing with gastric and duodenal ulcer and gastric carcinoma. He is a firm believer in local and regional anæsthesia for all gastric operations, and gives a clear description of the technique he employs. His method of obtaining access to the posterior wall of the stomach by reflecting upwards the whole of the great omentum from the colon is one which commends itself, and is perhaps the feature of the book. This book can be strongly recommended to all who are interested in gastric surgery, for in its way it is a masterpiece of terse and graphic exposition.

